THE BRITISH PTERIDOLOGICAL SOCIETY

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The BRITISH PTERIDOLOGICAL SOCIETY was founded in 1891 and today continues as a focus for fern enthusiasts. It provides a wide range of information about ferns through the medium of its publications and other literature. It also organises formal talks, informal discussions, field meetings, garden visits, plant exchanges, a spore exchange scheme and fern book sales. The Society has a wide membership that includes gardeners, nurserymen and botanists, both amateur and professional. The Society's journals, *The Fern Gazette*, *Pteridologist* and *Bulletin*, are published annually. *The Fern Gazette* publishes matter chiefly of specialist interest on international pteridology, the *Pteridologist*, topics of more general appeal, and the *Bulletin*, Society business and meetings reports. **WWW site**: http://www.eBPS.org.uk

Membership is open to all interested in ferns and fern-allies. **SUBSCRIPTION RATES** (due on 1st January each year) are Full Personal Members £20, Personal Members not receiving *The Fern Gazette* £16, Student Members £10, Subscribing Institutions £33. Family membership in any category is an additional £2. Applications for membership should be sent to the Membership Secretary (address above) from whom further details can be obtained. (Remittances made in currencies other than Sterling are £5 extra to cover bank conversion charges.) **Airmail** postage for all journals is an extra £4, or for those not receiving *The Fern Gazette* £2.50. **Standing Order** forms are available from the Membership Secretary and the BPS web site.

(**Front cover**: *Lomaria alpina* (= *Blechnum penna-marina*). From Plate XXXII, W.J. Hooker (1857) *Filices Exoticae*.)

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NATIONAL FIELD MEETINGS 2002

CHILE – 2-23 February

Sylvia Martinelli

I first proposed a trip to Chile to look at ferns during the highly successful trip in 2000 organised by Jennifer Ide to that other southern hemisphere country, New Zealand. Chile seemed to be the obvious country with which to compare New Zealand across the Pacific Ocean. It has spectacular scenery, a mild climate, good food and wine, delightful people and wonderful flowers. All that, and a similar number of fern species to New Zealand.

This trip, of three weeks duration, was confined to the region of central Chile from Santiago south to Puerto Montt, a distance of 1,024km. It was designed to cover the greatest number of fern species for the least distance travelled. Chile is such a long country that it was not possible to include either the northern deserts or the southern fjordland or steppe. We started in the 'mediterranean' area near Santiago, visiting the low coastal ranges behind Valparaiso and the high alpine flora of the Andes very close to Santiago. For the rest of the time we journeyed down the central valley on the paved Pan America highway, turning off here and there to go up Andean valleys, with one major diversion back to the coastal *Araucaria* reserve near Angol. After Temuco we followed a more meandering route around lakes, volcanoes and thermal spas in the aptly named Lake District, ending our trip in a new private reserve high in the hills near the port of Puerto Montt.

Physical geography

Chile is an unmistakable shape, a long thin ribbon on the south-west coast of South America, on average 138km wide and 4,329km long. Along with this enormous span of latitude comes a vast range of climate, causing hot desert in the north to tundra in the south. However, the whole country is influenced by the sea and particularly by the cold Humboldt current, which cools Chile and gives coastal mists. In the north there is desert which at one place holds the record for the lowest rainfall in the world – none. By contrast, near Puerto Montt annual rainfall is 4,000mm. Just south of the northern desert, Norte Chico is an area with sparse rainfall that is irrigated by a never-ending supply of melt-water in the many rivers that flow west from the Andes. Around La Serena, the coastal mists support a disjunct flora typical of the more southern forests. The central section, which includes Santiago and Valparaiso, has a climate of 'mediterranean' type. This gives way to an area of temperate rain-forest that used to be forested with *Nothofagus* and *Araucaria*, but now there are only relict areas. Then comes the Lake District, which is wet and finally there is wind-blasted tundra that ends in the ice and snow of Tierra del Fuego. Amazingly, there are ferns all the way down. We found out on day one that despite the maritime influence, Chile had had 12 months of exceptional dryness. Not what a fern hunter wants to hear.

The relatively young Andes form a continuous chain all down Chile and constitute the border with Argentina and Bolivia. Since there is an older, lower coastal range in central Chile, this area has a strong resemblance to California with its fertile central valley of

agricultural fame. Further down, the Andes form the coastal range with their glaciers running directly into the sea, but that comes south of the lovely fjordland region that we just touched upon near Puerto Montt. The area between the coastal range and Andes in the north is rich in salt deposits, especially nitrates and copper.

Human geography

Three quarters of the population live in and around Santiago, the capital. Very few live in the extremes of Patagonia and Chico. Chilean culture is very European in feel – food, wine, music, housing, gardens and buildings, despite the fact that most Chileans are of mixed blood between Hispanic 'conquistadores' and indigenous Indians. Important export industries include fishing, timber, wine that is comparable in quality to that from the best growers elsewhere, fruit and vegetables, copper and other minerals. Sadly, there is a huge traffic in exporting timber to Japan and in Puerto Montt we saw mountains of chipped wood waiting for export.

Flora

Chile can be regarded as a huge island cut off from the world by the deserts in the north, mountains in the east, ice in the south and the Pacific Ocean in the west. Consequently, there are many endemic plants, particularly on the offshore islands of Juan Fernandez and Easter Island. Sadly, we saw many European plants that have become a nuisance, such as brambles, but the otherwise ubiquitous bracken has not got to Chile so far.

Pteridophyte flora

Chile has about the same number of species as New Zealand (200) but scattered over a larger area and a greater range of climate and habitat. Northern regions have relatively few species, the richest provinces being further south: Bio-Bio (59 species), Araucania (64), Los Lagos (84) and Aisen (61 species).

There are *Isoetes*, equisetums and lycopods. The largest fern genera are *Hymenophyllum*, *Blechnum*, *Cheilanthes*, *Asplenium*, *Polystichum* and *Adiantum*, in descending order. One couldn't fail to see some of each of these, but we failed to see some of the smaller genera such as polypodiums and *Thelypteris*.

Day 1 – Arrive

Saturday 2nd February witnessed the first gathering of fern enthusiasts in the pleasant central hotel Fundador in Santiago. We were met at the airport by our bilingual Chilean driver and guide, the charming and urbane Pablo Carcamo and ferried to our hotel in our travelling home, a ten-seater minibus. We took our first communal meal in a rather upmarket Italian restaurant that evening and discussed our plans for the following day. The first day set the pattern for those that followed: early breakfast, leave around 8a.m. for our day's drive, taking box lunches prepared by our hotel and a large quantity of bottled water.

photo: S.D. Martinelli

Gleichenia squamulosa, Chile

Day 2 – Maipo Valley (drive)

We drove east along the lush wine-growing Maipo valley through the village of El Volcan to Banos Morales on the dark grey dirt road along the narrow ascending valley of the Rio Morales. Our ascent was stopped by force majeure – quarrying, which had closed the road completely. However, we were about 70km from Santiago, between 1,500 and 2,000m and not far from the border with Argentina. Either side of this road were precipitous scree slopes and mountain peaks up to 4,000m with their promise of many fabulous alpines such as *Mutisia*, alstroemerias, *Tropaeolum* and rhodophialas. Disappointed at first, with many cushion plants over their main flowering period and/or munched by a flock of free-ranging goats, the only things of note a minute magenta *Calandrinia* (cousin of *Lewisia*) and the gigantic concrete cushions of *Azorella*, we nevertheless stopped to botanise but a little further down the river where I had spotted the orange-red climbing 'daisy', *Mutisia subulata*. I was keen to share my love of these with the group. Concomitantly, I let out my first fern-spotting yell as I scrambled over a colony of *Adiantum scabrum*. I was quite prepared for these dry-living, harsh-looking adiantums, but the rest of the group were sceptical until they saw them with their own eyes. This was the first of many semi-xerophytic *Adiantum* species that we saw and it was rather suitably accompanied by our first cactus, a squashed barrel shape about 2cm high, probably a *Maihuena*, and the ubiquitous *Ephedra*. Despite missing the best cushion alpines, there were plenty of glorious alstroemerias and *Rhodophiala rhodolirion*.

We stopped for tea on the way down at Casa Bosque, which looked like an escape from Disneyland, and were entertained by a local singer. Back in Santiago we met over drinks for a fern colloquium and dined together. By the end of that day, we were a well integrated group determined to have as much fun as possible and to enjoy the scenery and plants.

Day 3 – Ski Centre of Farellones (walk) / Olmue (drive)

Pablo staunchly drove us up the steep zigzag road to Farellones while we notched up the 40 bends spread over 20km of road, and we stared at the tree-sized cacti (*Trichocereus chilensis*), desperately searching for the perfect one to photograph. An occasional white flower was spotted but more frequently they were festooned with clusters of flowers of the bright red parasite *Tristerix aphyllum*. We climbed to the highest of the three ski centres at Valle Nevado, over 3,000m, hoping to get away from the pistes to see the alpine flora, including *Polystichum andinum* and *Cystopteris fragilis*. However, it was too far to walk at that elevation in the time available, so we had to content ourselves with the *Alstroemeria spathulata*, *A. pallida*, rhodophialas, *Mimulus luteus*, *Calceolaria biflora*, *Tropaeolum polyphyllum* and *Schizanthus hookeri* on the road down from the acres of concrete at the top. There was a long drive ahead of us to the coast north of Valparaiso to reach the small town of Olmue near the National park of La Campana. Our attempt to make a quick reconnaissance of La Parva, another ski area, was frustrated by a broken down lorry carrying steel girders, which blocked the entire road. A no-fern day in the wild.

Pablo and I decided to risk a newly made road across the coast range to Olmue rather than drive the planned 100 or more kilometres around on the older paved road. The road was so new that it hadn't been finished, so folk got their first experience of a Chilean dirt road. A few faces turned white once or twice. It also introduced people to the daily hair-washing ritual, so necessary after a day on the road.

Our arrival at Olmue was welcome in many ways; there was a lovely pool, *Pteris chilensis* (seen only this once), newly finished well-appointed hotel rooms, an evening meal in the courtyard and a very friendly host family. The hotel Hosteria El Copihue is named after the national flower – *Lapageria rosea*, a climbing 'lily' with beautiful long tubular bell flowers and mostly found in the region of Araucania near Temuco.

VALPARAISO PROVINCE

Day 4 – Reserva La Campana (drive/walk)

Our target for the day was the north side of La Campana, famous for its stand of the endangered Chilean palm *Jubea chilensis* preserved in Palmas de Ocoa. Mark, a palm grower, was especially keen to see these. First we explored the slopes of the mountain El Robles with its matorral (like maqui), which includes the blue pujas, alstroemerias, the rare *Adiantum gertrudis* and others. Our first stop, near Las Palmas, provided several ferns in a wild glade by a stream sandwiched between market gardens and villas, a glut of adiantums with and without gold backs and hairs and blechnums such as *B. hastatum*. Janet slipped on a wet rock giving herself a bad ankle sprain, which was bandaged by Alan and hastily re-bandaged by Lee. The adiantums and *Cheilanthes* further up the mountain were quite dried-up but the flowering shrubs and views were worth the journey in this reserve.

On the north side of La Campana we arrived at the Palm grove shortly before closing time, but we found adiantums growing under the trees by an irrigation channel and *Blechnum hastatum* by a small brook. Despite each paying the full entrance fee, the clerk would only give us one map. Since we all went in different directions to make the most use of that half hour, it was not very helpful. Maps, where they exist at all, are a major problem in the National Parks and reserves, being primitive, and wildly inaccurate to the point of being downright misleading. Tim Burford's hiking book was much more useful in this regard.

Day 5 – Reserva La Campana (walk) / Cauquenes (drive)

This morning in Reserva La Campana was our chance to walk in Darwin's footsteps (made in 1834) up the Sendero El Andinista for 4km to the top of Cerro La Campana, which at 1,800m dominates this park. Half the party started this trail and found *B. hastatum*, while others went on the gentler Sendero Los Peumo through beech woodland. We were rewarded by carpets of adiantums and sighted a grey fox. Unusually, this park sold good flower and bird posters and several books and cards.

In the afternoon we drove to Rancagua south of Santiago then 25km eastwards to Termas de Cauquenes, famous not only for its 19th-century spa baths but also its French cuisine. Although Pablo negotiated dinner earlier than the standard 9p.m., we didn't in fact start until nearly 10p.m. For most of the trip, we were able to dine at 8.30p.m., a big concession in South America!

BERNARDO O'HIGGINS PROVINCE

Day 6 – Riserva Nacional Rio De Los Cipreses (walk)

We drove up the valley to the park entrance where a tour of the museum was obligatory. I again expected to find a goodly quantity of xerophytic ferns – *Adiantum* and *Cheilanthes/Notholaena* species, although only those of us who walked for the full time allowed got that far along the river. Furthermore, one had to be good at noticing tiny grey crisps on stalks to find the *Notholaena* and tiny gold crisps to see the *Adiantum sulphureum*, both ferns being in their aestivation (very nearly dead) mode. This valley walk was worth doing just for the views of mountains and the river with its gorges.

Driving east from Talca, we reached the red-painted converted monastery called Casas El Coronado at San Clemente in the late afternoon and settled down to a fern colloquium in the cloister. Sooner of later, one's sins of omission catch up with one. Hence a long session trying to identify our fern cache, mount some fronds and packet some spores. Janet had the most experience at mounting from her trips with Barbara-Joe Hoshizaki, Lee is a taxonomist handy at describing scales and hairs in minute detail, I translated the Spanish floras, assisted by Alan, while Mark wrapped up fronds for storage and sifted spores. Tom (Janet's brother-in-law) chivalrously kept me supplied with pisco sour to encourage my identifications. Adiantums all look the same, both before and after one of these local cocktails of pisco (a white spirit), fresh lemon juice, ice, sugar and white of egg.

On La Campana, I wanted to find again the rare *Adiantum gertrudis*, which grows only in this region of Chile. We had dried fronds of each apparently separate species that we had seen, and tried to sort them into species. Each specimen seemed to have every pinnule shape common to the whole genus, all on one frond. Every apparent species had gold and non-gold versions, small and large-pinnuled versions. I badly wanted one of them to fit the description of the rare fern but I couldn't do it in all honesty. In each location, there seemed to be two or more species. It was so muddling. In the end, we decided upon *A. scabrum* (*glanduliferum*), *A. chilense* var. *hirsutum* for the hairy one, *A. sulphureum* for the gold-backed one and *A. chilense* subsp. *chilense* for anything that didn't fit into the other categories. Anyone inclined to check the identifications is welcome to see the folder of pressed specimens.

MAULE PROVINCE

Day 7 – Alto Vilches (walk)

Following a dusty drive up a poor dirt road to Alto Vilches, 6km inside the Reserva Nacional Altos de Lircay, we walked up El Enladrillado hoping to find *Polystichum andinum* on the high basalt plateau. Seven out of ten Chilean *Nothofagus* species grow here and it's the northern limit of *N. pumilio*, so a rich flora. I remembered that the woods at the bottom were particularly rich in spectacular bulbs (*Rhodophiala andicola*, *Alstroemeria* that were flowering and orchids that were not), although we found the sloping beech woods relatively poor except in the clearings around streams. Here were *Fuschia magellanicum*, *Baccaris*, *Fabiana*, *Blechnum chilense*, spiny orange-flowered *Berberis* and the vivid *Mutisia decurrens* scrambling over other bushes. An interpretative trail led to good views of the bare mountain and to labelled specimens of two of the beech species, *N. pumilio* and *N. obliqua*.

Above the tree level Mark found *Cheilanthes glauca* in its crisp form but he didn't reach the real alpine area to see the others. This fern was also found growing on a large boulder at the start of one of the circular walks.

At Basso Vilches we stopped to see Janet's pet fern, spotted in the morning. Even six meters from the road it was covered in dust. It was a very large and luxuriant *Blechnum*. But was it the much-desired *B. magellanicum*? That evening, I puzzled over the *B. chilense* and *B. magellanicum* descriptions until I thought I had cracked the problem and made a table of similarities and differences. I labelled Janet's fern '*B. magellanicum* (query)' and the rest we had found as *B. chilense*.

BIO-BIO PROVINCE

Day 8 – Drive to Chillan

After lunch on a park bench in the main square of Pinto in the company of a starving dog in the shade of *Podocarpus salignus*, our next fern stop was the wooded slopes on Volcan Chillan. The deciduous woods near the Termas at Las Trancas were full of orchids and orange alstroemerias, the vivid orange *Mutisia decurrens*, the rare conifer *Saxegothaea conspicua* (named after Prince Albert) and mistletoe. We planned to botanise slowly on the route up to the Termas. I hadn't bargained for the extensive use of herbicide right along the road until we reached the dirt road 8km before the top. It looked like being a no-fern day, but in the new Termas de Chillan hotel car park there were carpets of *Blechnum gayanum* (now *B. microphyllum*) and nearby the frustratingly similar *B. penna-marina*. Further down, where streams crossed the road, we photographed *Gunnera chilena* (edible and used!) and stumbled across *Asplenium dareoides* growing in a stream with yellow *Mimulus*.

On the lava-grit road to Shangrila, we sank up to our axle in bull-dust and would still be there but for the loan of a shovel from a nearby house. Carpets of the miniature cactus *Maihuena poeppigii* and sickly looking cypresses were of note in the predominantly beech woods.

Day 9 – Drive to Angol

We passed a pleasant lunch hour at the extremely popular waterfall Salta El Laja on our way to Angol and stopped on the bridge to photograph the enormous River Biobio. In Angol, we hit our low point for accommodation. A hotel for commercial travellers with small minimalist bedrooms and one communal kitchen/dining/lounging room shared with the manager's family and burbling television. The best the town had to offer, but round the corner was a church with a wonderful fern grotto containing *Nephrolepis* and *Woodwardia radicans*. Nearby was a park with a magnificent *Magnolia* and beds of *Blechnum chilense*.

Day 10 – Parque Nacional Nahuelbuta (walk) / Temuco (drive)

A walk in Parque Nacional Nahuelbuta in the coastal ranges more than made up for Angol. This park was set up to protect the araucarias but it was the rich undergrowth of ferns underneath the trees, including hymenophyllums in the wetter parts, that we hoped to find as well as three species of *Alstroemeria* and 16 species of orchid. We walked up to Puedra de Aguila with its views of the coast and across the central valley to the Andes.

Snaking through the beeches with their magical light effects, we noted more and more araucarias the higher we climbed. Clusters of old, middle-aged and young ones at the top promised a future for this park and its collection. After a particularly dry preceding year, the filmy ferns promised by Barbara-Joe Hoshizaki were barely in evidence, nor were the trees very mossy although there were enough lichens for a lichenologist's dream. One specimen of *Grammitis magellanica* was spotted and also *Asplenium dareoides*. These, like many Chilean ferns, are also found in New Zealand. These woods were very reminiscent of the New Zealand beech woods, with lichens dripping like Spanish moss, bracket-like lichens and fern understorey but much richer, in my estimation, owing to the *Drimys*, desfontineas, young araucarias and highly colourful mutisias, alstroemerias and rhodophialas. No orchids were in evidence (too late in the season) but occasional *Blechnum hastatum* and *B. penna-marina* were seen.

Araucania Province

Day 11 – Parque Nacional Conguillio

It was a pleasant surprise for me to return to the Hotel Frontiera in Temuco and find that it had been given a face-lift. Frustratingly, the next day's plan hung in the balance. A fire was raging on the east side of Volcan Llaima in Parque Nacional Conguillio. Pablo spoke several times that evening and the next morning to the local police and park guards. Finally, we were given permission to go to Meilipeuco and beyond. Another long dirt main road which turned into a nightmarish lava dirt road once in the park. There had been several recent lava flows in this area, even as recently as 1994. Despite that there were sturdy specimens of ferns along the road in lava rocks. This fern became another nightmare of identification and source of great shame to myself. Was it a handsome but rubbery version of *Polystichum plicatum* or *Rumohra adiantiformis*? I had seen both in the wild before and it didn't look like either but keyed out as both in the *Flora de Chile*. It is unnamed to this day. We passed by wonderful views of Llaima, which got better with time as the smoke drifted away, also several small lakes. The cliffs to our right and east were of quite different rock and thickly wooded. We took a short walk to a gorge on the river to see the Truful-truful falls with *Gunnera* in profusion and bamboos. This enabled us to study the leathery fern close up and the cypress that also grew in the desolate laval landscape, *Austrocedrus chilensis*. Mark and I walked up part of the Sendero Sierra Nevada through beech woods dotted with araucarias overlooking the lake of Conguillio. It was not very ferny. I fell over a camouflaged tree root giving myself a sore knee for several days.

Driving north out of the park we stopped several times and found ferns in stream beds and on steep roadside banks in the wooded areas: *Asplenium dareoides*, *Cystopteris fragilis*, *Adiantum sulphureum* and another *Adiantum* species, two polystichums, *Blechnum hastatum*, *B. chilense*, *B. penna-marina* and *Cheilanthes glauca*.

Day 12 – Temuco (sightseeing) / Pucon (drive)

Temuco is the main town of Araucania and hence possesses the Museum Regional de la Araucania. It is also an important centre for the Mapuche Indians who are concentrated here. An obligatory visit was made to the craft market to look at silver Indian jewellery, musical instruments, woollen goods and pottery. It was also a chance for all of us to change money (but not in banks, which don't), buy stamps and hunt for that apparently non-existent Chilean species, the postcard.

photo: courtesy S.D. Martinelli

Participants of Chile trip at Reloncavi Estuary, with Volcan Yate in the distance (Day 17)

Sylvia Martinelli, Lee Gregg, Alan Ogden, Mark Morgan, Janet Keyes, Tom & Agnes Howshar, Denia Mandt

Day 13 – Parque Nacional Huerquehue (walk)

Pucon is an important tourist centre for foreigners and Chileans alike, with shops, restaurants and hotels, fishing, boating, riding, thermal baths and water sports. No mention is made of fern hunting, although there are two thickly wooded national parks within a short distance of Pucon: Parque Nacional Huerquehue (good for *Araucaria*) and Parque Nacional (Volcan) Villarrica. Based on guesswork I chose to go to Huerquehue where Mark and I did an all-day walk up to a plateau covered in small lakes. Other members of the party followed more slowly up to the Vista points of Lake Tinquilco and Volcan Villarica. Our major problem was that of maps, or lack of, once again. I made a quick sketch of the one etched on wood near the ranger station but both the original and my copy proved hopelessly inadequate when faced with a plethora of side branches, forks and unadvertised dead ends. By a miracle we managed to find all the named lakes after many false starts and one painful walk down an unmanaged path through *Chusquea*, *Acaena*, *Pernettya* and *Berberis*. Not good for wearers of shorts but it was a good day for ferns – a nine fern day.

Denia found the microscopic *Grammitis poeppigiana* and Lee found *G. magellanica* (both shared with New Zealand). We all saw *Pteris semiadnata* with its unmistakable triangular fronds, a soft-looking, pale green *Polystichum*, hordes of *Blechnum chilense* plants, *Hypòlepis poeppigii* and two red gesneriad climbers: *Sarmienta scandens* and *Asterantha*

ovale. While not exactly dripping, quite a few trees bore filmy ferns – various hymenophyllums and at least one *Trichomanes*. This forest had certainly suffered less in the drought year than Nahuelbuta. I spent some time staring at the trunks of blechnums, trying to decide if they were serious enough to belong to *B. magellanicum* or were those of *B. chilense* trying to fool us. A week later when I saw the giant specimens, I was convinced that they did belong to the real thing.

When it came to identifying the hymenophyllums, the others cowardly left it to me. After hours of headache-provoking work, I came up with a few hesitant names: *Hymenophyllum tortuosum*, *H. dentatum* and *H. pectinatum*. I knew that we had found *H. ferrugineum* with its characteristic red hairs but, oh dear, where was Alison Paul at my moment of need.

On the way down we stopped for coffee at the refugio where the owner shouted "remove zapatas" when we entered. We did see *Lophosoria quadripinnata* – and we got served when we took off our boots.

Los Lagos Province

Day 14 – Drive to Puyehue

We saw a really good portion of the Los Lagos area, views of Volcan Villarrica from four sides, a drive right around Lake Calafquen surrounded by magnificent giant fuschias, across country again to Lake Panguipulli and the town of Panguipulli, the home of Gabriella Mistral, with its massive rose plantings. At the far end of Lago Calafquen we made a detour to another small lake, only to be stopped by a missing bridge, but we were delighted to find fully ripe blackberries (non-native), *Podocarpus salignus* and flowering *Lumus appiculata* (formerly *Myrtus luma*). The cliffs of the southern side of the lake were dripping with adiantums, blechnums and *Lophosoria*, sadly unphotographed because this narrow dirt road was too well used by lorries for us to stop.

Our late afternoon arrival at Hotel Termas de Puyehue, one of the accommodation high points, was marred by the excessively bureaucratic signing-in process. There were several miles to walk between bedrooms and dining room, although bedrooms were conveniently placed for the lovely spa swimming pool. This hotel had unique mineral water bottles embossed with ferns.

Day 15 – Parque Nacional Puyehue (walk)

We spent a day behind the Hotel on Volcan Antillanco, making a very slow ascent fern spotting and a slow descent waterfall visiting. At long last I was able to show people *Gleichenia squamulosa* on the roadside in these rich woods and *G. quadripartita*. But first we visited a Salta near the entrance lodge. A rich spot with three different *Hymenophyllum* species, *Trichomanes*, two blechnums (including the one that looks like *B. chambersii* from New Zealand), *Pteris semiadnata*, which was not much seen on this trip, and hundreds of *Lophosoria quadripinnata* towering above us at the top of the roadcuts. Red-flowered and dramatic, the *Asteranthera ovata* plants contributed to the excitement, as did the *Mitraria coccinea* (both gesneriads). The ulmo trees (*Eucryphia cordifolia*) filled the woods with scent and were so prolific that the whole wood appeared white. Bees are reared near ulmo to produce a non-sweet honey much prized in Santiago, jolly nice it was too.

At the top, a few of us braved the high winds to walk (bent double) to the summit and take in the view of Tronador, Panguipulli, Osorno and others. On the way down, we found a sheltered crater for lunch. I was just apologising for not showing them *Polystichum andinum* when, while munching away, I noticed a dwarf fern between Lee's feet. Yes, that was it. The laval rocks bore them in every nook and cranny along with *Lycopodium*, *Pernettya* and *Euphrasia*. The *Polystichum andinum* had plenty of fertile fronds, mostly past their best, but with down-turned pinnules it was difficult to see at a glance if they bore ripe spores. The fronds were twisted and markedly three-dimensional, not at all the flat fern

frond of one's expectations, but very keenly appreciated by our company. There were many small lizards, which scampered over the hot rocks.

Further down there was a boardwalk over a bog where we found the dwarf *B. penna-marina* in quantity, along with the pink bells of false copihue called coicopihue i.e. *Philesia magellanica*. A wonderful day ended with a swim in the spa pool with its island of ferns and palms, a fern meeting over cocktails and a late dinner.

Day 16 – Drive to Lago Llanquihue

We had thunder and our first rain in the morning. The drive from Puyehue to Ensenada took us east of Lago Llanquihue by a short cut along a dirt road that crossed a private estate the size of an average English county. After checking into our purpose-built 19th-century wooden hotel, El Ensenada, we took off for the most famous falls in Chile at Petrohue. Here the river Petrohue is channelled through gorges cut into the lava flows. Even in late summer, when snow-melt should not be a problem, the viciousness of the racing water was apparent. A body wouldn't last one minute in those gorges. Tearing oneself away from beckoning nemesis, there were views of Volcan Petrohue and Osorno and *B. chilense* with sizeable trunks and the plastic-looking *Polystichum/Rumohra*. More tantalising were the cliffs across the quiet side stream, which bore the only *Elaphoglossum* we saw in Chile. Without a tightrope or waders, it was not possible to get close enough to identify it. Binoculars came in handy for spotting the coffee-coloured scales, short petioles and slightly dentate fronds. It was obviously a much wetter place than many we had visited, since even the rocks were covered in filmy ferns and *Grammitis*. *Equisetum* grew under the trees and also one frond of *Botrychium australe* subsp. *negeri*. A short detour was made to the stunningly beautiful Lake Todos Los Santos, where we could only see the Argentinian mountain Tronador with difficulty, owing to the grey skies and incipient rain.

We finished our day with a sunset walk on top of Volcan Osorno, with amazing views overlooking Lake Llanquihue; surprisingly there were numerous swallows flying even at this height. We repaired to our quaint hotel with its small nursery-like bedrooms under the rafters and its lounge crammed with Victoriana, old medals, crockery, paintings, musical instruments, rocking-horses and gramophones.

Day 17 – Drive to Alerce Andino

The drive to Lenca the long way round via Ralon, Puelo and the ferry crossing at Puelche was planned deliberately to introduce our group to the landscape and flora typical of Aisen province (although strictly speaking we were still in Los Lagos), if only for a day. It was difficult to balance the desires of the photographers, tempted by the sea loch and its mountainous backdrop, and that of our driver to catch a ferry at a specific time many kilometres down a dirt road that never, never seemed to end. The central stretch of this road was, in fact, a new and welcome development blasted out by the Chilean Army, linking villages that hitherto had only been connected by sea.

Cliffs dripped adiantums, blechnums, *Lophosoria*, *Gleichenia* and *Gunnera* between waterfalls. A 40-minute ferry crossing took us to Caleta then on to Lenca where we left Pablo's care and transferred to the lodge's 4-WD vehicles for a horrendous bouncing, head-hitting, 12km ascent up a rocky track to the Alerce Mountain Lodge near Alerce Andino. Alerce is the name for *Fitzroya cupressoides*, the second longest living conifer after bristle cone pines. It was named for Captain Fitzroy, the commander of *The Beagle*. The lodge was built close to a lake at 2,000m and is surrounded by lofty alerces and grey granitic-looking cliffs and peaks. Breathtaking! The back-wrenching journey was, after all, worthwhile especially in the light of the fern flora and other vegetation. Even between cabins in the hotel grounds there were specimens of *Blechnum magellanicum* with trunks as tall as people. The differences between *B. chilense* and *B. magellanicum*, which seemed so difficult in the books, were now perfectly obvious. Nobody could mistake one for the other.

You could tell them apart in the dark! Exposed tree roots sheltered *Philesia magellanica* (the coicopihue) and *B. penna-marina*; fuschias dripped scarlet flowers, although desfontineas clashed horribly with the latter. Here the climate was very mild although high up (1,500m). On the ascent we passed through quite noticeably different zones of vegetation and presumably climate. There were *Nothofagus* from 800m to 1,200m. Agnes had a disastrous fall on the boardwalk in the dark and sustained some agonising damage to her leg.

photo: A.H. Ogden

Pablo Carcamo between *Lophosoria* and *Gleichenia* beside new road to the Puelche ferry crossing

Day 18 – Parque Nacional Alerce Andino (walk)

Tom and Agnes, with her leg well strapped, were ferried slowly and agonisingly back to Puerto Montt by bumpy 4-WD. In the wake of a ship's tour party, the rest of us set out far into the hills for Fuente Esperanza. At first the going was easy along boardwalks raised over the boggy terrain but eventually we walked or scrambled across country where a machete would have been handy since there were no footpaths at all for long stretches, or we had to use stream-beds as paths. We were forced to take part in the ultimate fern crime - we used two foot tall *Blechnum magellanicum* plants as stepping stones (a desecration I shudder at) - and force our way through sharp bamboo (*Chusquea*) and spiny shrubs. We were rewarded with *Gleichenia*, *Hymenophyllum pectinatum*, *Lycopodium* and the ubiquitous *Drymis winteri*. The Fuente was just worth the trouble but not in the light of the very long, very hot climb back up to the lodge for lunch. In the afternoon we managed a tame boardwalk around the lake with good opportunities for photography.

Day 19 – Drive to Puerto Montt (shopping & sightseeing)

I arranged for us to spend most of the day at the lodge, rather than in Puerto Montt. This gave Janet, Mark and me time to sort out and mount specimens and packet spores. At 10.30a.m. Mauricio took Mark on the whole day walk to the summit of the ridge; they waved from the top at 2p.m., tiny figures, hardly visible and staggeringly returned at 3.30 in time for our departure. On our way down the mountain we had our only flat tyre of the trip;

on previous trips I had good reason to learn the Spanish word – enllanto. The wheel was changed by the handsome Mauricio, our talented driver, guide and pop singer. To our delight he gave a spirited rendition of 'Love me Tender', as well as local folk music and excerpts from opera. A compulsory stop was made to visit El Tata, the huge alerce reputed to be the oldest tree in South America.

The Puerto Montt area is renowned for its fish restaurants. We dined at the Balzac opposite our hotel, so that Agnes could accompany us in her wheelchair, kindly lent by the Rotary Club of Chile. Here we met for the first time our Chilean travel agent, ex-pat Adrian Turner and had arguably the best meal of the trip.

Day 20 – Go home

Pablo, our driver/guide was so loth to leave us that he carted as around Puerto Montt all morning, although this was not strictly part of the package. We visited the fish market, the craft shops and the Traveller's office, where we were given coffee and where we found a superb collection of postcards. Too late for most of us!

To our relief, Agnes was accepted on the flight from the local airport so that she could return home for treatment. And so ended a delightful trip.

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SOUTHERN LAKE DISTRICT, CUMBRIA – 13-15 July

Saturday 13th **Graham Ackers**

Having arranged car sharing at our Grasmere hotel venue, we headed to Kettlewell car park on the east side of Derwent Water (35/267195). There we met other members to form a good-sized party of 25 or so. After considerable rain, both in the Lakes and elsewhere during the preceding weeks, the onset of high pressure based weather systems for a few days proved very welcome.

Our target species occurred submerged at about five metres depth and so, not having brought my scuba gear, we had to be content with strand-line scrutiny. Initially the strands of vegetation were a little difficult for the untrained eye to differentiate, and could have been any of three or so species. Under the expert tuition of our leader, Mike Porter, we learnt of the differences in stem cross-section between *Lobelia dortmanna*, *Littorella uniflora* and our target *Isoetes lacustris*, which was eventually found after several minutes of diligent searching.

The party then walked through woodland *en route* to the Lodore Falls. The ferns seen were *Polypodium vulgare* (on walls), *Pteridium aquilinum*, *Athyrium filix-femina*, *Dryopteris*

filix-mas, *D. dilatata*, and (reminding me that I was back in the Lake District) *Gymnocarpium dryopteris*. For the benefit of the less experienced members of the party, Mike provided guidance on the characteristics of the different species. There were also various *Dryopteris affinis*, the identity of which were speculated upon in the absence of an 'affinis expert' in the party. The main population consisted of a decidedly non-robust type, possibly subsp. *borreri*, with a scattering of a very robust form, almost certainly subsp. *affinis*.

The Lodore Falls (35/265186) are a popular tourist attraction, despite the somewhat hazardous terrain and slippery rocks. Queuing up one at a time, our initial activity was to crouch within a small cave to see, with the aid of a torch, a patch of *Trichomanes speciosum* gametophytes. Other ferns within the immediate vicinity of the falls were *Hymenophyllum wilsonii*, *Asplenium trichomanes* subsp. *quadrivalens* and *Polystichum aculeatum*.

photo: B. Colville

Near Castle Crag, Borrowdale

Back row: Mark Kitchen, Graham Ackers, Mike Porter
Next group: Robert Crawford, Joy Neal, Robert Sykes, Joan Hindle, Diane Copson, Bryan & Gill Smith (*both in front*), Michael Hayward
Next group: Jonathan Crowe, Frances Haigh, Alastair Wardlaw, Clare Kitchen, Ann Colville, Elise Knox-Thomas, Sam & Nan Hicks, Harriet Hunt, Roy Copson
Seated in front: Christine Mullins, Jackie Wardlaw, Marti & Andy Martin

For the afternoon excursion, we drove a short distance south up Borrowdale to the Bowder Stone car park (35/253169). From there we walked north into the village of Grange (35/253175). Ferns recorded on the bridge and house walls in the village were *Asplenium trichomanes* subsp. *quadrivalens*, *A. ceterach*, *A. ruta-muraria*, *Athyrium filix-femina* and *Polypodium vulgare*. Fans of fern varieties were intrigued by the forked frond tips of some specimens of the latter species.

Moving up the wooded valley in the direction of Castle Crag, we passed *Dryopteris affinis* subsp. *affinis*, *Polystichum aculeatum* (few) and *Pteridium aquilinum* (too many). Heading past the Hollows Farm sign, beside the River Derwent we investigated stands of *Cryptogramma*

crispa, *Oreopteris limbosperma*, *Gymnocarpium dryopteris*, *Blechnum spicant* and *Phegopteris connectilis*, all 'classic' Lakeland species within lovely mossy woodland. The other ferns present were *Athyrium filix-femina* and *Dryopteris affinis* subsp. *affinis*.

Retracing our steps a little, we headed up the Allerdale Ramble track beside Broadslack Gill, eventually emerging into open fell country (around 35/246155). We climbed the fell a little to explore some crags to the east of the track, where we counted about a dozen plants of *Asplenium septentrionale*, quite a rarity in the Lakes. Even more unusual and exciting was the discovery by Harriet Hunt of a potential candidate for *Asplenium* x *murbeckii*, the hybrid between *A. septentrionale* and *A. ruta-muraria*. [Disappointingly, experts have deemed it probably to be a young plant of *A. septentrionale*, but suggested that the plant be monitored.] According to *A Flora of Cumbria*, this hybrid was last seen in Borrowdale in 1961 and is currently known from only one other site in the British Isles.

On returning to the main track, a few specimens of *Cystopteris fragilis* were spotted, together with some very cryptic specimens of *Lycopodium clavatum*, nestling prostrate in the grass sward by the path. Clare and Mark Kitchen climbed the grassy scree to the west of the track and discovered many more specimens of *Asplenium septentrionale*, thought to have disappeared from that area. The party speculated that their re-appearance had been enabled by the lack of sheep grazing the previous year (2001) as a result of the foot and mouth disease outbreak. A total of 25 specimens were counted, but it was highly likely that there were many more in the area.

On returning to Grange, we were treated to a splendid tea in the garden of BPS member Nan Hicks. Waistlines surely suffered from the intake of the delicious home-made cakes and scones, washed down with numerous cups of tea. Having resided in the house for 43 years, Nan has built up an impressive collection of plants, now fully mature, creating a veritable botanical paradise (including many interesting ferns). On her arrival, the garden had been mostly grass, but now there is hardly a blade to be seen! The garden, victuals and the lively assembled company constituted a very pleasant end to a fruitful day's ferning!

Sunday 14th **Jonathan Crowe**

A party of 26 set out from our base in bright weather and drove the 30 odd miles to Whitbeck. After parking at 34/119839 we took the farm track leading up the hillside. *Asplenium ruta-muraria* and *A. trichomanes* were seen on the bridge parapet and along the track we saw *Athyrium filix-femina*, *Dryopteris dilatata*, *D. affinis* subsp. *affinis* and the ubiquitous *Pteridium aquilinum*. A very large clump of *Osmunda regalis* was seen in the garden of a farmhouse. Some 400 yards up the track we found what we had come to see: *Asplenium obovatum* subsp. *lanceolatum*. This site, recently discovered by Jack Garstang, is only the third known in Cumbria. Several large clumps were found growing on the dry-stone retaining wall bordering the track. The plants were partially concealed by ivy and bramble.

Our next visit was to Milkingstead Wood, which had very recently been acquired by the National Trust. We left the cars at Forge Bridge (34/148995) and moved into the wood. The River Esk flows near the wood, creating very damp mossy conditions under a thin canopy of trees. In this fern-rich habitat we saw *Dryopteris affinis*, *D. dilatata*, *Athyrium filix-femina*, *Blechnum spicant*, *Oreopteris limbosperma*, a small patch of *Phegopteris connectilis* and *Pteridium aquilinum*. Away from the valley bottom on the higher north-facing granite outcrops we found large quantities of *Hymenophyllum tunbrigense*. A little further on the *H. tunbrigense* was joined by *H. wilsonii*, thus providing the party with a good opportunity to compare the species. The only plants of *Dryopteris filix-mas* and *Polypodium vulgare* that we saw in the wood were growing on the ruined walls of what had once been a cottage. High up the escarpment in a rock-crevice we admired a few isolated plants of *Dryopteris aemula*, which had been re-discovered by the intrepid Pat Acock on a BPS visit in 1998.

After lunch at the nearby King George IV Inn we headed north-west to Cinderdale Bridge (35/128037), on which were growing colonies of *Asplenium trichomanes*, *A. ruta-muraria* and a few *A. adiantum-nigrum*. A short walk across rough meadow took us to Flass Tarn where, in the muddy shallows of the upper pool, we examined the bright green tangled mass of *Pilularia globulifera*. Since last visited in 1998 the pool has become so much more colonised by the sedge *Carex rostrata* that it looks as though the *Pilularia* may become threatened. However, investigation of a nearby pool where a small quantity of *Pilularia* had been noted in the past, revealed that this had spread dramatically to line the margins of the pool with a dense green carpet with many 'pills', somewhat unusual in Cumbrian plants.

Next on our itinerary was Greendale Mires (35/151054), where we saw *Lycopodiella inundata* thinly scattered over a large area of the banks of a small beck. The clubmoss was growing in association with bog asphodel (*Narthecium ossifragum*), sundew (*Drosera intermedia*) and the uncommon white beak-sedge (*Rhynchospora alba*).

We then drove to Porterthwaite Woods in Miterdale (35/142008). Within this very wet, open deciduous woodland we discovered some fine stands of *Osmunda regalis* and many flourishing *Blechnum spicant* on the fringes of the bog. Also seen were *Athyrium filix-femina*, *Dryopteris affinis*, *D. carthusiana*, *D. dilatata*, *Oreopteris limbosperma*, *Phegopteris connectilis*, *Polypodium interjectum* and the ubiquitous *Pteridium aquilinum*.

A fine day's ferning in glorious weather was rounded off by a return to Grasmere over the dramatic Hardnott and Wrynose passes.

Monday 15th **Mike Porter**

After the sunshine of previous days the weather was rather dull, but it remained dry and warm throughout the day. The party made the journey east across the M6 to the limestone pavements of east Cumbria with the particular goal being Fell End Clouds. We parked on the roadside below the limekilns at 34/730998 and were glad to be joined by Nan and Sam Hicks and also Alan Gendle, the manager of Waitby Greenriggs Nature Reserve.

A short climb up grassy slopes with scattered rocks and low crags brought us to the limestone pavement. Unlike many other pavements in the district, where the slabs are broad and set at an easy angle for walking on, the Fell End pavement slopes steeply and the blocks are set edgeways between deep grykes, giving difficult and dangerous going in wet weather. Even in the good conditions obtaining on this visit great care was required. On the way up good quantities of *Asplenium* had already been seen (*A. ruta-muraria*, *A. trichomanes* subsp. *quadrivalens* and frequent *A. viride*) together with *Cystopteris fragilis*. On the pavement itself were fine clumps of *Polystichum lonchitis*, some nibbled by sheep but many in excellent condition. They were accompanied by much *Dryopteris submontana*, showing its grey-green foliage, and fine specimens of *Polystichum aculeatum*. On two recent visits the leader had been unable to refind the other limestone speciality, *Gymnocarpium robertianum*, which is usually frequent on the pavements round about. However, the sharp eyes of Christine Mullins located a small patch of this attractive fern in a part of the pavement where it had not been seen before. The question remains as to why it is so uncommon here. Other fern species seen in the grykes were *Athyrium filix-femina*, *Dryopteris affinis* and *D. filix-mas*, while the attractive spring sandwort (*Minuartia verna*) was noted near the entrance to an old mine working and colonies of narrow-leaved bittercress (*Cardamine impatiens*) were spotted on the pavement itself.

Lunch was taken at the Black Bull, Brough Sowerby, after which the party, now much reduced by people setting off for home, moved on to the last site of the weekend, the Cumbria Wildlife Trust reserve of Waitby Greenriggs (35/757085). This is an area of species-rich calcareous grassland, which has developed on the cuttings and embankments of

a former railway line and contains more than 200 species of vascular plant. Our guide, Alan Gendle, demonstrated many of the species to us including a fine patch of very large *Ophioglossum vulgatum*. Sadly, the *Botrychium lunaria* that had been seen here a few weeks earlier had disappeared but we had the compensation of seeing a magnificent colony of marsh helleborines (*Epipactis palustris*) in full flower. After thanks to Alan for showing us around his reserve, members of the group said their farewells and headed for home, some pausing *en route* for a quick visit to the temptingly near Summerfield Books.

In all, 40 different taxa of ferns or fern allies were seen during the weekend.

TEESDALE & WEARDALE, DURHAM – 13-15 September Barry Wright (Leaders: Barry Wright & John Durkin)

There are always times in your life when you sit back and wonder what on earth you have let yourself in for. This was one of those occasions. I had been unable to do the recce for this meeting during 2001 and was determined to sort out the visits early in 2002. I was still trying to sort out some of the venues as late as August. But, with a lot of hard work and loss of sleep I was able to make all the arrangements and provide what I hoped would be an interesting selection of field visits for a discerning group of fern lovers.

On the Friday evening, many of those staying locally assembled for a meal at the High Force Hotel (35/885285), our base for the weekend, north-west of Middleton-in-Teesdale. Saturday morning began with a gentle stroll down below the Hotel to look at *Asplenium trichomanes* subsp. *trichomanes* growing on the acidic rocks of the Whin Sill. There was also a small colony of *A. adiantum-nigrum* growing on the same rock. My intention had been to attempt to walk downstream, cross the bridge and walk back upstream to have a good view of the High Force waterfall. I had not bargained on the interest and enthusiasm of the group. Having reached the bridge, they spent a considerable time studying the polypodiums and aspleniums on the bridge itself before I could wrench them away and off up the Yorkshire side of the river (well, it used to be Yorkshire and is in vice-county 65, NW Yorks...). But even here, progress was slow. Having seen a small colony of *Selaginella selaginoides* we straggled our way along the shoreline of the river, taking in the wonders of the rich fern flora on the banking above us. There were extensive stands of *Athyrium filix-femina*, *Oreopteris limbosperma*, *Dryopteris dilatata*, *D. filix-mas* and *D. affinis* subspp. *affinis* and *borreri*. Underneath all of these there were carpets of both *Gymnocarpium dryopteris* and *Phegopteris connectilis*, with occasional *Blechnum spicant* and some *Pteridium aquilinum*. At one point there was an extensive colony of very robust-looking *Equisetum sylvaticum*. On some of the rocks there were small plants of *Cystopteris fragilis*, *Asplenium trichomanes* subsp. *quadrivalens*, *A. scolopendrium* and *Polystichum aculeatum*. Back at the bridge was a marshy area supporting *Equisetum arvense*.

Having fallen well short of my target, we made our way back to the High Force Hotel for lunch. This needed to be a hearty lunch as the assembled party had no idea of how far I was expecting them to walk in the afternoon. Unfortunately, to see what we wanted to see, there was no alternative other than a long walk, as most of the good ferns were on the 'far side' of Widdybank fell, with no vehicular access.

We re-convened at Langdon Beck (35/847309) and followed the road to the English Nature offices at Widdybank Farm. From here we continued round the footpath towards Cauldron Snout. Along the way, the footpath became difficult as it crossed several boulder fields. These supported good colonies of *Dryopteris oreades* with occasional specimens of *Polystichum aculeatum*, *Cryptogramma crispa*, *Polypodium vulgare* and *Huperzia selago*. Continuing round, we passed some *Equisetum palustre* and then came across a cliff that supported *Asplenium viride* and *A. ruta-muraria*. On other cliffs, further away from the river,

were specimens of *Polystichum lonchitis*. Further on still, we passed a wet area with some stems of *Equisetum fluviatile* before we came across 'Ken's Rock' (so-named by the Leeds Group after Ken Trewren). Behind this was a good colony of *Dryopteris expansa* and some nice examples of *Huperzia selago*. Other rocky areas also supported *Polypodium interjectum*.

From here it was a relatively short walk round to the waterfall at Cauldron Snout. This is a magnificent waterfall and is, in my opinion, better than High Force. Having said that, it is a daunting waterfall to climb up. All credit to the members on the day, they were all keen to go upwards and onwards rather than backwards and downwards. Having scaled the side of the waterfall the rest of the return journey was on metalled roads. At first we were walking past the controversial Cow Green reservoir. The grass verges bordering the access road that follows the shoreline were occasionally carpeted with extensive colonies of *Selaginella selaginoides* intermixed with the typical arctic-alpine flora that Upper Teesdale is internationally renowned for. Some old mine workings at 35/824312 comprised a series of settlement ponds with extensive stands of *Equisetum fluviatile* in the central wet parts and *Equisetum palustre* around the margins; the latter also grew extensively along the side of the road.

During the day we were very pleased and privileged to have been allowed to visit a site where *Woodsia ilvensis* had been re-introduced. This is part of a programme run by English Nature in association with the Royal Botanic Garden Edinburgh. Grateful thanks to the warden, Chris McCarty for allowing us to study these plants that are now re-established in their natural surroundings.

As I am not one to allow any slack time in my programme, I bullied members into watching a slide-show after their evening meal on the Saturday. They also had the opportunity to bring back and study specimens under the microscopes that I had provided. But it was the after-dinner entertainment that was a bit of a panic for me, as organiser. Members were supposed to bring a maximum of ten slides of ferny interest to show the others. However, I did threaten that if nobody brought slides then I would bore them with endless pictures of fern spores. Fortunately, enough members came prepared and we had sufficient slides to make the event worthwhile.

The following day we set off into Weardale to look at a colony of *Equisetum* x *mildeanum* (*E. pratense* x *E. sylvaticum*). Having stopped to look at a good plant of *Asplenium ceterach* growing on a garden wall, we found the colony, surviving on a small island in the river upstream from Eastgate (35/952389). John Durkin discovered this population and has been monitoring it for several years; he was disappointed that the specimens this year were exhibiting less branching than they had done previously. From here we went further upstream to look at some stands of *Equisetum pratense*. At this point we were once again running late and had to drop one of the alternative venues of the weekend.

From Weardale we returned again to Teesdale to study the ferns in one of the disused quarries at Dufton Moss (35/871291). This was a curious quarry, in that the rock was predominantly acidic, but there were a number of species that prefer a reasonable quantity of lime or bases, notably *Asplenium scolopendrium*, *A. viride* and *Polystichum aculeatum*. There was also the potential for *Asplenium trichomanes* subsp. *trichomanes* in some of the acidic rocks (though many of the plants looked like good subsp. *quadrivalens*). John has not had any confirmation of this as yet, but hopes to find out in the future. Another curious specimen was a crested form of *Dryopteris affinis* growing in the cliff-face at the top of an area of boulder-scree. Other *D. affinis* (inconclusive debate on subspecies), *D. oreades*, *D. filix-mas*, *D. dilatata* and *Athyrium filix-femina* were also recorded.

With time continuing to press, we returned to the High Force Hotel for lunch.

From here we went to our final venue of the weekend, which was the woodland on the upstream and northern side of the River Tees at Barnard Castle (35/046168 to

35/031184). *Polystichum aculeatum* was frequent, as were *Dryopteris filix-mas*, *D. dilatata*, *D. affinis* subsp. *borreri* and *Athyrium filix-femina*. Less common were *Blechnum spicant*, *Dryopteris affinis* subsp. *affinis* and *Asplenium scolopendrium*. During my recce of this site I came across some curious ferns at one particular point along this stretch of river. In my ignorance I had hoped that they might be *Polystichum* x *bicknellii* (*P. aculeatum* x *P. setiferum*) and *Polypodium cambricum*. My optimism was soon to be dashed with the realisation that the *Polystichum* was in fact *P. setiferum*. However, this was not as disappointing as I at first thought – John Durkin reported that this has not been found in this area since 1860. The other curious plant I wanted identified was a *Polypodium* that, owing to its broad fronds and pointed pinnae, I felt sure could be a candidate for *P. cambricum*. But, sure enough, when the experts got hold of it they determined that it was just a broad-fronded *P. interjectum*. Still, there is no harm in trying, is there?

photo: A.M. Paul

Matt Stribley, John Durkin & Barry Wright near Barnard Castle, Teesdale

Here, we all said our farewells and made our own way back downstream to our cars to disperse to our respective homes.

Would I lead another National meeting? Possibly, but certainly not in 2003. They may be very enjoyable, but they are a lot of hard work. But keep watching as I haven't shown my slides of fern spores yet! Thanks to all who came.

TENERIFE, CANARY ISLANDS – 30 November - 5 December

Saturday 30th November – Teno **Patrick Acock**

We were based in Puerto Cruz, where we were made aware of ferns straight away as the hotel staff decorated the steps with hibiscus flowers and fern fronds each morning. We also bumped into the alien *Cyrtomium falcatum* regularly on walls where any dampness broke through and also occupying the niches near the sea that *Asplenium marinum* often occupies in Britain and elsewhere.

As we drove out to Erjos in the north-east of the island we soon saw plenty of *Davallia canariensis* and *Polypodium macaronesicum*. After parking the cars we wandered along a track observing both species on the dry-stone walls and soon added *Asplenium onopteris* to our list. These proved to be the commonest ferns and we were to see them at most of our sites. After a mile or so we entered the laurisilva forests and we soon saw a steep bank down which was the really beautiful and majestic *Dryopteris oligodonta*. Further along, where the trail divided, we came across *Selaginella denticulata*.

After proceeding a little further our leader had us looking for a fern that he had found earlier, which turned out to be *Polystichum setiferum*. We then discovered *Asplenium hemionitis*, a real little gem. After a photograph with the laurisilva as our backdrop we returned the same way and settled down for what became a regular dish at lunchtime – goat.

Santiago del Teide **Tim Pyner**

Following our lunch at the restaurant we drove a short distance to an old lava field just outside Santiago del Teide. Andrew had explained during lunch that he had stumbled on the area on an earlier visit and had found that several species of cheilanthoid ferns grew amongst the loose volcanic rocks.

As we parked it could be seen that the area was very different from that seen on the morning's walk. The loose rocks, consisting of a light cinder, formed what at first glance seemed to be a hill gently sloping away from the road. However, once we started clambering over the rocks there were depressions and mounds that seemed to be randomly arranged across the site. Interspersed were outcrops of volcanic rock. It was on these outcrops that the ferns were most frequent, although they also occurred among the loose rocks. Almost immediately after leaving the cars large clumps of *Notholaena marantae* were found. Many fronds were over 30cm in length and were glabrous and dark green on the upper surface. The under surface was covered with pale brown scales, which were whitish on the unfurling fronds, making a very attractive contrast.

We were fortunate to be visiting after a rather wet period and Andrew commented several times through the week that the ferns were all looking more lush than normal. This was particularly useful when searching for xerophytic ferns, as they were all unfurled and easy to see and examine.

With the help of a crib sheet we started looking at other ferns. The next species to gain our attention was much smaller and had pale green fronds that were densely scaly on both surfaces giving them a greyish appearance. This was *Cosentinia vellea*, which proved to be fairly frequent over the whole area and formed small clumps or tufts of attractive woolly leaves. Further searching revealed the next species, *Cheilanthes pulchella*. This small fern is not very scaly and has dark green, leathery fronds with elongated pinnules. One diagnostic feature is the entire indusium along the pinnule margin. This species also proved to be frequent in the area. The group gradually separated whilst searching for more species. Once we met up again much discussion and head scratching ensued while looking at the crib sheet. The result was that we were satisfied that a fourth species was also growing on the site. This appeared to be *C. maderensis*. This had short indusia on the pinnule lobes and the fronds were quite small, hardly scaly and a rather bright green. It seemed to be quite scarce.

One other fern grew on the site; occasional fronds of *Davallia canariensis* could be seen growing from the loose cinders. Michael investigated how deep a rhizome grew but found no sign of it even after removing 30cm of loose cinders. The fronds were rather small and yellowish but seemed otherwise healthy.

For those not solely interested in ferns the cinder field proved very interesting. The two dominant plants were both succulents endemic to the Canaries. *Senecio kleinia* is a shrubby

ragwort that loses its leaves in the dry season leaving a rounded bush with fleshy stems. *Aeonium urbicum* is like a massive house-leek perched on a solitary woody stem. Both these species grew commonly on this site, giving a very weird effect. Another succulent, *Monanthes pallens*, grew in damp crevices, often with *Cheilanthes pulchella* and formed tiny house-leek-like rosettes about two centimetres across.

After returning to the cars we drove to a nearby café for a welcome drink, as the afternoon had turned out quite hot and dry as befitted the site. The afternoon had proved very rewarding, and the whole day provided a good start to the rest of the week.

Sunday 1st December – Teno Mountains **Alison Evans**

On our way to the car park in Puerto de la Cruz we saw *Cyrtomium falcatum* growing high on a wall near the seafront. On the journey to Erjos we stopped to take photos from a seafront viewpoint, the mirador San Pedro and then again at the Camel Centre in El Tanque.

At Erjos, after crossing a small valley with agave, prickly pears and a eucalyptus wood, the walk was on a good track through laurel forest. Species along the track were *Davallia canariensis*, *Asplenium onopteris*, *Pteridium aquilinum*, *Dryopteris oligodonta*, *Polypodium macaronesicum* and *Selaginella denticulata*.

Almost at the furthest point of the walk there was a steep bank with loose soil pockets where there were large colonies of *Notholaena marantae* interspersed with *Asplenium* (*Ceterach*) *aureum*. Some of us discovered why Andrew had made us sign the disclaimer. On the way back we found a few more *A. aureum*, and Tim and Michael found one plant of *A. hemionitis*.

We spent the afternoon in the Botanic Gardens, where there were too many ferns for me to remember.

Monday 2nd December – Orotava Valley **Paul Ripley**

Setting out through Orotava, we soon entered the cool cloud and mist, stopping first at a fish farm at Aguamansa. Where does all this water come from? Apart from fish, we saw *Pteridium aquilinum*, *Adiantum capillus-veneris* and *Cystopteris fragilis*, the latter growing in walls, and also a nice rainbow through the clouds. Nearby we explored a dry river-bed (barranco) where, in the rocks, we saw *Polypodium macaronesicum*, *Davallia canariensis*, *Asplenium onopteris*, *A. trichomanes* subsp. *quadrivalens* and *Notholaena marantae*, as well as *Pteridium aquilinum*.

Further up the road at La Caldera (1,050m a.s.l.) we visited a number of barrancos. This area of pine forest was botanically rather uninteresting but in the largely dry stream-beds we again saw *Polypodium macaronesicum*, *Davallia canariensis*, *Asplenium onopteris*, *A. trichomanes* and *Pteridium aquilinum*. Unfortunately most of us lost the advance party and missed seeing *Asplenium aureum* at what Patrick described as the best site of the week…

Past a fantastic rose-shaped rock formation we left the clouds and entered clear warm sunshine. We lunched in Las Canadas del Teide. Reluctantly leaving our sunbathing, we left the cars a little further up the road at the Visitor Centre (2,050m a.s.l.).

Behind the Visitor Centre, in the clear dry air, we explored a moonscape where survival of anything but a few scrubby shrubs seemed miraculous. However, in cracks in crags resulting from solidified lava we found *Cheilanthes tinaei* (very small, and recognisable by small, bright red glandular hairs on the frond under-surface) and *C. guanchica*. While pontificating vacuously on the differences between *C. guanchica* and *C. maderensis* (fronds of the latter appear to shrivel more quickly than others), particularly meaningless since *C. maderensis* probably did not occur at this site, I lost the main party. They walked over the moonscape-like lava flow to El Cabecon. The views were stunning but only a few *C. guanchica* were reported.

We stopped briefly in the cloud belt on the way down to visit a shallow barranco where *Cystopteris fragilis* was found, and returned, tired, to Puerto de la Cruz, too late for our daily 'fix' at the Botanic Gardens.

Tuesday 3rd December – Anaga Mountains **Michael Hayward**

Driving along the ridge of the Anaga mountains we entered the cloud base and light rain, which largely obscured the view of the Atlantic to either side, but stopping at a Mirador we found *Polypodium macaronesicum*, *Davallia canariensis* and *Dryopteris oligodonta*, all epiphytic on the same *Phoenix canariensis* palm.

The cars were parked by the Casa Forestal. *Pteridium aquilinum*, *Asplenium onopteris* and *Davallia canariensis* were all growing by the roadside. Then eight hardy souls launched themselves, like lemmings, over the ridge into the laurel forest towards the village of Taganana 620m below.

Dryopteris oligodonta was soon replaced by contrasting *D. guanchica* with its dark stipes. Both terrestrial and rupestral plants of *Davallia canariensis* were common at this level. As the canopy increased in density, epiphytic *D. canariensis* was noted on high branches amongst the profuse growth of mosses and lichens. *Asplenium onopteris* was common where the canopy was less dense and occasional large specimens of *Polystichum setiferum* were found. Terrestrial and epiphytic *Polypodium macaronesicum* were seen. One large colony of *Blechnum spicant* was found spread along a bank by the path.

photo A.J. Evans

Andrew Leonard, Jurgie Schedler & Pat Acock
in Anaga Region, Tenerife

Descending the mountain-side, feathery *Diplazium caudatum* gradually replaced *Dryopteris*. Then we gradually became surrounded by magnificent arching fronds of *Woodwardia radicans*, many measuring over 2.5m with stipes of one metre. Leaving the extensive banks of *Woodwardia*, the small ivy-like *Asplenium hemionitis* was found and at the lowest levels of the laurel forest the even smaller *Adiantum reniforme* was present in large numbers, chiefly growing on a precipitous bank that several of the company were drawn to explore. Two thirds of the way down the mountain-side the path emerged from the forest, passing largely abandoned vine terraces. The dry-stone walls of the terraces were awash with *Davallia canariensis*, here growing in full sunlight.

Finally reaching the village of Taganana, there was a temporary setback when it was found that the local bar no longer served food; however, foragers soon returned with supplies of rolls, cheese, salami, bananas and a local sweet pastry (species yet to be determined).

After lunch we retraced our path back up the mountain-side, the rain having stopped and the sun at last shining, back to the cars parked at the summit of the ridge, thus getting a second look at the plethora of ferns in the forest.

Wednesday 4th December – Anaga Mountains **Jurgie Schedler**

The Hotel Monopol again did not disappoint us, as our wake up call was at 6.30 a.m. sharp. Weary, with tired legs and aching bodies we assembled for our, now usual, 7 a.m. breakfast and the daily protocol of our day ahead. With the strenuous Tuesday still on our minds, Andrew promised us an 'easier' day with the possibility of seeing the tree-fern indigenous to the Canary Islands, *Culcita macrocarpa*.

We left a sunny Puerto de la Cruz behind and were soon driving up the hair-raising, serpentine-like mountain roads to Monte de las Mercedes in the Anaga region. There was no need to stop to marvel at Tenerife from the many viewpoints, as we were again enshrouded in thick clouds and mist; wet weather gear was definitely the order of the day.

photo: A. Leonard

Above Las Mercedes, Anaga, Tenerife

Linda & Mick Craddock, Alison Evans, Ann Robbins, Jurgie Schedler,
Marti Martin, Tim Pyner, Andy Martin, Pat Acock, Paul Ripley, Michael Hayward

We walked along a mountain path with a sheer drop to our side. The whole mountain-side flora was dominantly tree heather, thickly covered with lichen and mosses and the ground was covered with ferns. The continual sea mist and low-level clouds made this a constantly wet environment. Large *Woodwardia radicans*, *Dryopteris guanchica* and *D. oligodonta* covered the mountain slopes in abundance. Along the path we spotted *Asplenium hemionitis* and *A. onopteris* and it was no surprise that we also found, so typical of this region, *Davallia canariensis* and *Blechnum spicant*. Three further fern species were not missed along the way: *Notholaena marantae*, *Polypodium macaronesicum* and a few patches of *Selaginella denticulata*. Isolated specimens of *Diplazium caudatum* and *Polystichum setiferum* were recorded. To the delight of us all, in a really wet spot so necessary for filmy ferns, we found *Trichomanes speciosum*. And one should not forget the *Pteridium aquilinum* that mingled amongst all the ferns, so common but quite beautiful in its own right. We recorded 14 different species of fern in the morning as we settled down to a well-earned lunch in the only, but so typical, Spanish restaurant in El Bailadero. White cheese, spicy goat, local rabbit and a mysterious beef stew on Paul's plate, were washed down with home-brewed wine.

The weather did not improve for the afternoon session, with persistent heavy clouds and sea mist. We returned to the region of the morning, but this time we followed a more forested path leading to a more precarious ridge walk with a sharp and steep drop to one side.

The flora was the same as in the morning, with ferns abundant on the way and we recorded all the morning's ferns in a short space of time. On the ridge, engulfed in clouds and mist, Andrew pointed out another filmy fern, *Hymenophyllum tunbrigense*. One patch was nestling beautifully at the base of a large tree heather, while another larger patch was growing on the ridge face and only accessible for the daring and sure-footed pteridologist. We turned back on ourselves, and a short walk along the path we turned inland down a very slippery ravine to find a forestry road below. Here we had to find a nearly non-existent path leading down another ravine. The sights of the ferns present in this damp and wet ravine were breath-taking. *Diplazium caudatum* was absolutely stunning and abundant and was admired by all. All the ferns had this deep green colour and looked so perfectly in harmony with their environment as we walked waist-high amongst them. Large colonies of *Trichomanes speciosum*, with their deep green see-through fronds, were found along small streams in deep shade. For the first time on our trip we spotted beautiful specimens of *Pteris incompleta*. What a magical place it was; so much to see and not enough time. Later in the afternoon, as our return dawned, Ann spotted up on one slope a fern we had not seen until then, *Culcita macrocarpa*, so different and so beautiful – what a rewarding sight it was indeed. Time was running out and we had to find our way out of this ravine and back to our cars. On the way we spotted the now usual array of ferns with the total tally for the afternoon being 17 different species.

Thursday 5th December – Anaga Mountains **Ann Robbins**

We revisited the steep-sided gully that we had found late on the previous day, a ravine running south off a track signposted Hoya Ujuana at Chinobre, Anaga. Laurel, holly and heather forest made the gully dark and rather dank; the forest floor was loose and slippy. Our path followed and repeatedly crossed a small stream. A few *Dryopteris guanchica* and *Polystichum setiferum* were seen at the start of the day, but *Dryopteris oligodonta* was always present and many specimens were large and handsome. *Asplenium hemionitis* and *A. onopteris* were also found but not as abundantly as on previous days.

The star ferns of the day were the beautiful *Diplazium caudatum*, which clothed the valley floor with its perfect, emerald green fronds and dark stipe, and the statuesque *Culcita macrocarpa*, which grew high up on the right on the most inaccessible ledges of the steepest slopes. *Woodwardia radicans* was also present in some numbers. There were a few epiphytic *Davallia canariensis* and some *Blechnum spicant*. Large colonies of *Trichomanes speciosum* grew low down on the stream-banks where nothing else competed; some colonies covered up to one square metre. We were unable to find any fertile fronds among them. A few examples of *Pteris incompleta* were found among the *Diplazium caudatum* and some *Polypodium macaronesicum* was seen. After a scramble down by an industrial building of some sort, where *Pteridium aquilinum* was seen, we walked back up to the road by way of steep steps cut into the rock.

Lunch was goat stew again at the blue transport café at El Bailadero, with the best view on the island and we lazed away the final afternoon on the beach at San Andres where some hardy souls swam in the sea.

Postscript **Andrew Leonard**

After the meeting had finished I stayed on for a well earned holiday. I revisited some of the sites and at Santiago del Teide found small plants of *Anogramma leptophylla*. In the gardens leading to the casino in Puerto de la Cruz, in addition to other ferns there was *Pteris vittata*.

LECTURE MEETINGS AND DAY VISITS 2002

SPRING MEETING, NESS BOTANIC GARDENS, WIRRAL, CHESHIRE – 15-17 March

Pat Acock

A number of members arrived from distant parts of the UK for an evening meal and pleasantries at the Ship Hotel, Parkgate, South Wirral.

The following morning we were joined at Ness Botanic Gardens (33/305756) by further travellers, many of whom had set off before dawn to make a full day of it. We had a tour of the gardens, ostensibly led by our host for the weekend, Paul Ripley. However, the membership is prone to stray even when gathered in small numbers, and keeping the 30-40 people together was, of course, impossible.

The gardens were splendid, and despite the meeting being early in the season there was plenty to see. The ferns were somewhat hard to spot but trained eyes soon made out the interesting evergreen ones and it did not take people long to discover the tidied remnants of deciduous plants. The ferns were many and varied and should be visited by us again at a more fitting time of year to do them justice. Several glasshouses also contained a few interesting ferns. While walking around the gardens some of us heard tales about the Society's trip to Chile, and over lunch in the Visitor Centre the leader and an American visitor, Janet Keyes, recounted more of their adventures.

We next met up in the anteroom to the lecture theatre and Hugh McAllister (of the University of Liverpool's School of Biological Sciences) brought in some interesting ferns for us to look at, with the delightful news that we could share them out and take them home with us. Hugh gave us a brief history of the Gardens, which were founded in 1898 by A.K. Bulley and were given to the University of Liverpool by his daughter in 1948. After the AGM we stopped for tea and also started the celebrations to mark Clive Jermy's seventieth year. A special cake had been commissioned, which Clive cut and distributed to the gathered party.

We were then given an account of the Society's 2001 symposium at University of Surrey, Guildford by the Co-ordinator of the scientific programme, Clive Jermy. He also spoke briefly of the future work to be done by the Species Survival Commission Pteridophyte Specialist Group (see *Fern Gaz.* 16(6-8). In press). Sylvia Martinelli and Alan Ogden next treated us to excellent slides to illustrate their report on the February excursion to Chile. From the ferns shown and the scenery in which they

photo: A.C. Wardlaw

Clive Jermy cuts his 70th birthday cake at Ness Gardens, Wirral

were set, I know that there were many people present who wished that they could have joined the trip.

Later, after a glass of sherry, we had dinner, arranged in honour of our friend and mentor Clive and celebrating his service to the Society for nearly half a century. After a pleasant meal our President, Alastair Wardlaw, gave a speech in Clive's honour and kept us in stitches with his gentle humour and endless wit. Clive responded in like manner. After the rare treat of listening to some tunes by James Merryweather on his renaissance English and Flemish bagpipes (including *Allez à la fougère*, see *Pteridologist* 2(6): 256. 1995), we returned to the Ship Hotel to reminisce on times past and plot the way forward in the world of ferns.

The following morning, a somewhat smaller group assembled near Red Rocks, West Kirby, to examine the large stand of *Equisetum* x *trachyodon* (*E. hyemale* x *E. variegatum*) on the coastal dune slacks (33/208878). Time did not permit us to investigate the full extent of the colony, but in 1979 Marian Barker reported that it stretched for 1.3km. We did not find either parent, although both have been recorded in the Wirral in the past (*Fern Gazette* 12(1): 59-60. 1979). Alongside the road where we had parked there was an interesting wall supporting *Polypodium interjectum*, *Asplenium ruta-muraria*, *A. trichomanes* and *A. adiantum-nigrum*.

photo: J.M. Ide

Matt Busby, Molly, Paul Ripley, Barbara Porter, Pat Acock, Elise Knox-Thomas, Rose Murphy & Steve Munyard looking at *Equisetum* x *trachyodon* near Red Rocks, Wirral

Now it does pay one to research field trips well, but who would have picked up on the fact that the local motorbike club would be on its hospital Easter egg run! We watched motorbikes pass at the rate of around one and a half per second for the next hour and a half. We tried to go in the opposite direction, but after fifty yards we were thwarted and just had

to wait for the stream of bikes to pass. (Afterwards we heard that an estimated 4,000-4,500 bikes, trikes, mopeds etc. had participated in the 2002 New Brighton Easter Egg Run!) Our group was consequently dispersed in all directions, so few of us saw the ferns at the Wirral Country Park on the old platform of Thurstaston Station (33/238835), the most notable being *Adiantum capillus-veneris*, which has been known at this site for many years.

Lunch was taken at The Cottage Loaf, where we were reduced to around 12 members. From here we went our separate ways.

We would like to thank everyone who contributed in any way to the smooth running of the weekend. I would like to say a special thank you to Mrs Pat Reynolds, who produced the superbly decorated cake for Clive's birthday from the scantiest of drawings. We must also thank Paul Ripley, whose idea it was to hold the AGM at Ness and whose planning over the preceding year and a quarter brought the whole venture through to a perfect conclusion.

SISSINGHURST & SCOTNEY CASTLE GARDENS, KENT – 18 May Pat Acock

Ten of us met outside the delightful National Trust Gardens at Sissinghurst Castle (51/808383) on a morning that proved far better than the forecasts all week had been predicting. It was nice to have Pauline Alexander and her daughter Felicity and Rosemary Powis with us for the first time. We were fortunate to have Jack Hubert with us, who, having visited the gardens regularly, was able to direct us to all the best places for ferns as well as other interesting places.

The ferns are really quite numerous and also varied, with interesting species as well as cultivars. Some are planted singly, whilst others are in swathes or, in the case of *Matteuccia struthiopteris* and *Onoclea sensibilis*, so numerous as to be in excess. There were also a few naturally-occurring ferns on the walls as well as a few naturalised cultivated polypods.

After refreshment at The Brown Trout, we moved on to Scotney Castle Gardens (51/688353), also National Trust. Here the ferns were fewer and less diverse but were set in the pleasing setting of an old quarry and around the old castle and lake. The lakeside osmundas were over seven feet tall and were accompanied by *Onoclea sensibilis*.

Other ferns common to both sites were *Blechnum chilense*, *B. penna-marina*, *B. spicant*, *Dryopteris filix-mas*, *D. dilatata*, *D. affinis* subsp. *borreri*, *Gymnocarpium dryopteris*, *Phegopteris connectilis*, *Athyrium filix-femina*, *Polypodium interjectum*, *Asplenium ruta-muraria* and *A. scolopendrium*.

EDINBURGH – 20-23 June

Thursday 20th Pat Acock

There was an air of expectancy at the start of the day, as our triumvirate of Adrian Dyer, Mary Gibby and Heather McHaffie had been planning this very different long weekend, based at the Royal Botanic Garden Edinburgh for us for at least 18 months.

Mary, who was in some discomfiture having cracked a rib at the start of the week during her trip to Turkey, gave us a warm welcome.

Heather immediately started us off with the interesting story of *Athyrium distentifolium* and *A. flexile*. She began with the history of their discovery and their distribution, going on to describe her research. This had shown that although *A. flexile* comes true from spores, *A. distentifolium* often produces some plants of *A. flexile*, thus proving that *A. flexile* is a variety of *A. distentifolium* with a recessive gene that gives it an advantage in the wild, especially in places of lower nutrient levels.

Adrian next gave us a lecture on the status of *Woodsia ilvensis*. This beautiful plant is now Britain's rarest fern. No new plants seem to generate in the wild in Britain, despite good fertility of the spores when grown in cultivation. A number of reasons have been postulated for this, including the possibility that low genetic variation and changes in climatic conditions may be preventing the gametophyte stage from developing. A programme of reintroduction into the wild has been instigated. The first year's observations showed that the plants were surviving, but because of the foot and mouth disease epidemic no checks were possible last year.

After coffee, Antonia Eastwood gave an interesting talk on the decision-making process in the conservation of endemics on the mid Atlantic Islands. One endemic species on St Helena, *Microstaphyla furcata*, had been reduced to monotypic status by Gómez (1975). However, it was shown by Mickel (1980) to be closely related to the two endemic species of *Elaphoglossum* on St Helena. Antonia has found recently that one of these is derived from *M. furcata* and the other endemic *Elaphoglossum*. Since *M. furcata* occurs in reasonable quantity and is not really monotypic, this should be considered when decisions are made as to where to allocate conservation resources.

Mary then gave us a brief talk on the status of *Asplenium hemionitis* in one area of Portugal and showed us that it has a lot of genetic diversity despite its confinement.

Librarian Jean Hutchins had put on a magnificent display of books in the library, which we were allowed to browse! So enamoured was one of the participants with Eaton's *North American Ferns* that he ordered a copy as soon as he arrived home!

photo: Debbie White, RBGE

Participants on first day of meeting at RBGE

Standing: Jonathan Womack, Robert Sykes, Les Kingstone, Frank McGavigan, Adrian & Janet Dyer, Tim Godfrey, Alan Mellor, Alastair Wardlaw, Pat Acock, Barry Colville, Mary Gibby
Sitting: Ann Colville, Graham Ackers, Heather McHaffie, Ken Trewren, Grant Fortune, Christine Mullins

After lunch we were taken on a tour of the RBGE ferns, especially those in the Fern House. Words fail one in trying to describe such a wonderful place in such limited space. We visited it a couple more times over the weekend. It is to be regretted that there is nowhere like it in the South of England now that RBG Kew's fern holdings are diminished.

The evening was spent at Heather's magnificent garden, where you were frightened to say how much you liked a plant in case she dug it up for you and left a space where there should not be one. Even so, I came away with a carrier bag full, determined to study *Dryopteris dilatata* and *D. expansa* growing side by side so that I should know the difference.

Friday 21st **Robert Sykes**

Some day this, combining the best of expert instruction, practical study, looking at ferns under cultivation and in the field, and a gratifying, totally un-pteridological walk.

We started with a talk by Adrian Dyer about the fern life-cycle, which (for this participant) contained some that was familiar, one or two illuminating glimpses of the obvious, and some exciting new material. I grow spores and am familiar with the observed life-cycle. I suppose I would have known, if I had thought about it, the extraordinary proposition that the minute fern spore contains all the genetic information for both the gametophyte and sporophyte generations. Since the sporophyte cannot walk away, the site where the gametophyte germinates must satisfy the requirements of *both* generations, if the plant is to survive. As the gametophyte is a poor competitor, this may explain why some ferns are rare in the wild, notwithstanding that they grow easily enough in cultivation (e.g. *Woodsia ilvensis* and *Dryopteris submontana*), and why ferns produce a prodigious number of spores (ten billion a year apparently for a large *Dryopteris*), in order for the odd few here and there to hit the reproductive button. New insights (for me) included the propositions that if spores are sown too closely, then the overcrowded gametophytes may produce only males; that moisture, coupled with darkness, can increase spore longevity; and that the moment of meiosis takes place in the maturing sporangia – the spore is the product of it.

Mary Gibby then produced some pots of spores sown three months earlier, and some agar plates with very young ones sown two weeks previously. The various gametophytes were examined under the microscope, to find and identify for ourselves the cells dividing, the rhizoids growing down from the developing cells, the archegonia and the antheridia (the female and male structures on the gametophyte). All of these we found and saw under our own microscope or somebody else's. Fascinating, as well as very beautiful. I don't think anyone successfully stimulated the sperms to swim through the moisture film – a game to play at home.

Coffee, and another talk by Adrian, this time about other forms of reproduction. He made the point that while sexual reproduction allows for a mix of inherited characteristics and greater versatility to adjust to new conditions, asexual reproduction allows the `non-dismantled` genotype to take maximum advantage of a constant habitat. He took us through the various forms of vegetative reproduction, such as new individuals on the tip of the frond (e.g. *Woodwardia radicans*), bulbils along the rachis, horizontal stolons (e.g. *Matteuccia struthiopteris*) or branching rhizomes without horizontal stolons, yielding the familiar huge clumps of, for example, *Dryopteris filix-mas*. He also, rather more challengingly, explored apomixis, where meiosis is modified, the chromosome number is unchanged, and the spore therefore yields an effective clone of the parent. The phenomenon occurs in plants that are hybrids, uneven polyploids (e.g. *Phegopteris connectilis*), or both.

Using a microscope linked to a television screen, Mary set up a demonstration of Irene Manton's famous technique for counting chromosomes. She worked with the immature sporangia of a *Dryopteris* species. The trick is to hit the precise moment of meiosis: too early and no division has taken place, too late and the spores are already formed. She lifted a sorus onto a slide with a pair of tweezers, put a drop of stain on and cleaned off the indusium leaving

the sporangia on the slide. She then warmed it over a spirit lamp and pressed the preparation under a cover slip. What we then saw under the microscope was fascinating; what we never did see was any chromosomes, illustrating the need for great patience as well as great skill.

photo: A.C. Wardlaw

Heather McHaffie, Mary Gibby & Adrian Dyer
in the teaching laboratory at the Royal Botanic Garden Edinburgh

After lunch we were offered a choice of three sessions: I opted for Heather McHaffie on equisetums. She illustrated her analysis of the eight native species (only eight! – what's the problem?) with overheads and living material. I annotated my copy of *The Illustrated Field Guide* (Jermy & Camus) and Heather (wearing as ever a themed tee-shirt) gave us copies of her overheads. She made it all seem quite straightforward, and I will in future conduct the snap test and twiddle the branches between thumb and forefinger like an expert, but I fear I will need to look back at the notes to make a definitive diagnosis – and then there are all those hybrids. I don't say 'sheath teeth' a lot, but when I do I will always think of Heather.

She had collected some *Equisetum* spores, which differ from fern spores in having four elators, which contract and expand with moisture. We enjoyed looking at them under the microscope and watching them open and shut as we breathed on them. No wonder somebody wanted to take some home for his children.

Elsewhere in the laboratory, Adrian's group were looking at fern identification, using the key to Scottish ferns that he and Heather are developing, and Mary had a session on identification problems and challenges, with an array of *Dryopteris* species.

It goes on: we had a visit to the shade tunnel to look at the research collection of equisetums (which are unsportingly, but characteristically, escaping and merging to increase the challenge), as well as rows and rows of *Woodsia ilvensis*, showing how well they grow out of the wild, and other hardy ferns. The fern pots were set on sand, which would be

moistened by rainfall through the shade cover, and were growing notably well. There was a particularly handsome *Polystichum vestitum*.

After refreshment at The Sheep's Heid, we went up to Hunter's Bog (36/273733) under Arthur's Seat. This whole area of hilly parkland is a wonderful facility on the fringe of the city. Park Ranger Jenny Hargreaves took us to the population of *Ophioglossum vulgatum* growing in longish grass in moist ground down-stream from a small loch. She had arranged a count with volunteers in metre squares, which yielded over the whole area an astounding total of over 30,000 fronds. One could still easily have walked by and missed them. There was also an extensive population of *Equisetum palustre*, flanked by *E. arvense* for comparative purposes.

We then moved round the hill and were shown a remarkable collection of spleenworts growing in the cracks on a cliff. They included the old familiars, *Asplenium ruta-muraria*, *A. adiantum-nigrum* and *A. trichomanes*, but there were also some handsome clumps of *A. septentrionale*, far more lush than I have ever seen it before in the UK, and, the thrill of the evening, *Asplenium* x *murbeckii*, the very rare *A. ruta-muraria* x *A. septentrionale* hybrid. A vigorous plant, it looked rather like *A. ruta-muraria*, but with finer pinnae.

And finally a walk up Arthur's seat in the dusk to yield fine views of the city, the distant hills and the far away hump of the Bass Rock. A great day. Our grateful and well-earned thanks to all concerned, particularly this day to Adrian, who planned it, gave two talks and led the field excursion, and to the Royal Botanic Garden Edinburgh, which generously allowed us the use of the laboratory and equipment free of charge.

Saturday 22nd **Graham Ackers**

Following the classroom-based fern identification tutorials the previous day, today's activities provided us with the opportunity to put our identification skills into practice. With the delegates suitably deployed in cars, we headed for Roslin Glen (36/274632), several miles due south of Edinburgh. On arrival, the earlier drizzle having abated, Adrian announced confidently during the car park briefing that he had 'switched off the rain'. Hmm.

Passing some clumps of *Asplenium ruta-muraria* on the graveyard wall, we headed for the ruined castle, a fascinating and rather beautiful structure with colourful sandstone brick walls harbouring *A. trichomanes* subsp. *quadrivalens*, *A. scolopendrium* and *Dryopteris filix-mas*. We then explored the north side of the steep but wide valley of the River North Esk. The site consisted of highly scenic, relatively undisturbed, ancient mixed woodland, with a good collection of ferns. At the first sighting of *Dryopteris dilatata*, Heather gave an enthusiastic account of the characteristics of the species, and continued in similar vein for several of the other species seen. These included *Athyrium filix-femina*, *Dryopteris filix-mas*, *D. affinis* subspp. *affinis* and *borreri* and other forms of *D. affinis* that were more difficult to place, *Blechnum spicant* and *Pteridium aquilinum*, all reasonably common. Less common were *Polypodium interjectum*?, *Polystichum aculeatum* and *Oreopteris limbosperma*, the latter represented by a single specimen, which had (only just) survived a recent riverbank collapse. The sessions during the previous day had included horsetails, so lessons learnt were put into practice by seeing and identifying *Equisetum arvense*, *E. telmateia* (an impressive stand in a wet flush), and a very small number of *E. hyemale*, the location of which was aided by the 'fallen ash clue'. Finally, to tie in with other classroom sessions, we inspected banks bearing gametophytes, observing their structure and attempting their identification, difficult manoeuvres to perform without some loss of dignity!

Adrian's divine powers had deserted him, because considerable quantities of rain had descended upon us for much of the morning! Lunch was taken in a private room at a Roslin pub, and provided Ken Trewren with the opportunity to help us differentiate between the different *D. affinis* types, aided by a few fronds collected during the morning.

Consistent with the diligent preparation that the organisers had made for the meeting, one of our briefing sheets was an account of the history and architecture of Rosslyn Chapel, our first afternoon 'site'. This is a beautiful building, but on our visit was shrouded by a canopy to assist in the drying out of the chapel walls. Ferny interest was provided by the Apprentice Pillar, at the top of which was a highly stylised stone carving of a 'scollie'. I must confess to a degree of scepticism, but became more convinced on pondering what else it might have been (and nothing else came to mind). Perhaps another of the many carvings, at the base of an arch, might have been a *Polypodium*, but maybe that would be stretching imagination too far…

For the second part of the afternoon, we returned to the Dean Village area of Edinburgh, and visited the Dean Cemetery (36/237739). The grandiose gravestones suggested that this was the resting-place for the Edinburgh elite. Even the ferns seemed to want to show off a little, with several examples of crested varieties of *Asplenium scolopendrium* and *Athyrium filix-femina* (fine if you like that sort of thing). We also saw *Dryopteris filix-mas*, *D. dilatata*, and the probably planted cultivars of *Polystichum setiferum* and fine stands of *Osmunda regalis*. A little wander around picturesque Dean Village yielded *Asplenium trichomanes*, *A. adiantum-nigrum* and *A. scolopendrium* in walls around the Water of Leith (it's a river!).

In the evening we met at the historic Ye Olde Peacock Inn in Newhaven Village, where again we had our own room. After the meal, Adrian gave a charming and light-hearted talk on the 'Myth Propagation of Ferns'. I do hope Adrian can be persuaded to reproduce his talk in article form, because any summary here could not possibly do it justice. Finally, Alastair Wardlaw gave a vote of thanks to the three organisers of the meeting, who had prepared and presented the programme so well.

Sunday 23rd **Ann Robbins**

On Sunday, led by Heather McHaffie, we visited a raised bog: Red Moss Wildlife Reserve at Balerno (36/164638). The bog was made accessible by a boardwalk that allowed us to look down on the area without damaging it – or ourselves. The area was fringed by birch and goat willow where many small birds sang while remaining elusive in the branches. Ragged robin, meadowsweet and pale common spotted orchids accompanied us along our way.

Dryopteris dilatata and *D. carthusiana* grew in abundance and provided an opportunity to learn the characteristics of each. A possible hybrid *D.* x *deweveri* was spotted but not confirmed. Three horsetails, *Equisetum fluviatile*, *E. arvense* and *E. palustre*, were identified with Heather's help. A single specimen of *Blechnum spicant* and some *Athyrium filix-femina* completed the list of pteridophytes.

As we walked out over the centre of the bog the trees gave way to an open expanse of cotton grass and heathers. Here lay the sinister traps of sundews, wide open and glistening in the sun, awaiting their next catch amongst a variety of mosses and lichens.

Adrian and Janet Dyer kindly opened their house and garden to the group for lunch. The garden descended steeply from the house, giving eye-level views of a range of ferns expertly cultivated by Adrian. Only when we reached the bottom of the slope could we appreciate the extent of the site. Many native species and some foreign ferns looked perfectly at home in an area cleared of dead elm trees 20 years previously. Adrian even manages to grow horsetails without any obvious problems.

The visit marked the end of a most enjoyable and well organised meeting.

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REGIONAL MEETINGS 2002

LEEDS & DISTRICT

Moonwort and Adder's tongue Survey, North York Moors – 25 May

Barry Wright

Following the significant disruption to ferning activities during 2001 caused by foot and mouth disease restrictions, it was refreshing to be allowed once more into the countryside in search of ferns. For this field meeting we set about continuing our success at locating roadside verge colonies of moonwort (*Botrychium lunaria*) and adder's tongue (*Ophioglossum vulgatum*) on the North York Moors. When we did the survey in 2001 we were fortunate in being allowed access despite the foot and mouth restrictions. However, we did not have the advantage of additional GPS navigation devices. During the current survey, we were able to use four of these and were also fortunate enough to have sufficient people to use one device per team. We attracted the attention of our president, Alastair Wardlaw, who is very interested in moonwort and was keen to join us on the promise of being guaranteed to see good colonies.

In 2001 we surveyed a road that seemed to be one of the main strongholds of moonwort in the moors, and also investigated two adjoining roads that unfortunately both proved unfruitful, being totally devoid of moonwort and adder's tongue. The 'fruitful' section we surveyed was roughly between 45 732022 and 45 747057 on the road between Rosedale Abbey and Lealholm and revealed a large number of moonwort colonies on both sides of the road as well as a single, small colony of adder's tongue.

The intention this year was to continue southwards from 45 732022 as far as the junction at 45/746000. In addition, I had previously made records for moonwort on the road from Hutton-le-Hole to Castleton; there was a colony at 45/683040.

On the day of the current survey I was early for the meeting and was driving to 45/683040 and happened to stop on the road at 44 697918. It was not long before I found several colonies of moonwort and a single colony of adder's tongue. I also stopped at 44/689963 and was again rewarded by further colonies of both species. On this basis, when I met up with the rest of the group, we decided to study this road in greater detail.

We met at the Danby Lodge visitor centre just east of Danby village. We were fortunate that Ken Trewren was available to come on this meeting as he took us on a short detour to look at a very handsome specimen of *Dryopteris* x *complexa* nothosubsp. *complexa*. This was growing on the side of the railway line at approximately 45 697083 along with both parents: *D. filix-mas* and *D. affinis* subsp. *affinis*, the latter being particularly attractive with its flush of new fronds.

Having admired these plants we then made our way on to Glaisdale Rigg where I was to show everybody known colonies of moonwort and adder's tongue so that they could 'get their eye in' for these species. On the way to the parking area, I determined to relocate the small colony of adder's tongue using the GPS. As I drove slowly to the spot, I was watching the numbers on the display slowly counting down towards what would hopefully be the exact location for the fern. I approached and drove ever more slowly as the numbers approached the exact figures from the previous year's encounter (45 73806 03815). At the exact number on the display I got out of the car and was more than amazed to find the colony less than 30 centimetres away from my front-wheel! This also amazed the assembled group and reaffirmed the accuracy that GPS devices can now achieve.

Having studied this solitary colony we continued down the road to park and marvel at colonies of moonwort. These seemed to be slightly less abundant than in 2001 and the plants tended to be relatively small, rarely exceeding five or six centimetres. It was at this point that the weather threatened to deluge us with one of Yorkshire's gentle spring showers. By the time we had dodged the raindrops and got our eye in for the size of plant we would be looking for, it was getting on for lunch-time so we repaired to a pub at Rosedale Abbey. After lunch, the rain clouds seemed to have gone somewhere else and we were able to spend most of the afternoon in relatively dry conditions, bordering on sunny. From here we all went our separate ways to study sections of roads already identified. These data have yet to be analysed in any detail, but it continues to be a source of puzzlement as to why colonies are restricted to one side of the road. A gratifying result of the survey this year was that we recorded a great many more adder's tongue colonies than in previous years. Of particular note was a very significant and extensive colony located by Alastair, which ran between 45/73936 00997 and 45/73946 00987 and was of hundreds of spikes (unless Alastair is an angler in his spare time!).

At the end of the day we were kindly invited back to Egton Bridge by Ken Trewren for a cup of tea and a look round his garden. This was most welcome and interesting, particularly as Ken was able to show us some of the differences between various members of the *Dryopteris affinis* group. In particular he was able to show us specimens that he had collected from the North York Moors that did not fit any of the recognised morphotypes of Anthony Pigott's *Affinis Watch* leaflet. Altogether a very interesting and rewarding day. Thanks to Ken for his expertise and hospitality. We will continue this survey in subsequent years and I hope that we can begin to revisit some of the colonies to monitor variation in the number of above-ground parts of this fascinating pair of native British ferns.

Miller's Dale, Derbyshire – 15 June **Paul Ruston**

photo: P.I. Ruston

Miller's Dale, Derbyshire

Ken Trewren, Ann Robbins, Barry Wright, Neil Timm (*standing*), Richard Unett

From Buxton to Bakewell the River Wye cuts deeply into the Carboniferous Limestone plateau of the White Peak, giving rise to a series of scenic and precipitous dales. These dales and the countryside around have, over the years, been extensively exploited for their content of lead and other minerals, and limestone has been extracted for building and road

construction. This extraction of limestone continues in the immediate locality at an ever increasing and alarming rate, and is the cause for much concern. The disused quarries, worked during the last and early part of the previous century, are small by comparison and are now valuable habitats for wildlife. The Miller's Dale Quarry Nature Reserve (English Nature) was to be our first call, to relocate the colony of adder's tongue that I found there many years ago and perhaps also to find moonwort.

Six of us met at the disused Miller's Dale Railway Station (43/137732) and set off to visit the nearby reserve. On the way there we saw *Asplenium ruta-muraria*, *A. trichomanes* subsp. *quadrivalens*, *Dryopteris filix-mas*, *Cystopteris fragilis* and a *Polypodium* on the brick pillars of the old railway viaduct (43/139732) (the dismantled railway is now the Monsal Trail). The ascent to the quarry begins at the disused limekilns – not at all ferny – and terminates where the remains of a stone-built structure languish beneath the shade of willow saplings. Here, Ken Trewren noticed a very robust *Asplenium trichomanes* with long fronds and large, dark green, slightly lobed pinna segments. Was it *A. trichomanes* subsp. *pachyrachis* or merely subsp. *quadrivalens*? Ken's investigation, at a later date, determined that it was the latter. Our search through the low herbage of the reserve revealed the adder's tongue (*Ophioglossum vulgatum*) covering quite an extensive area (43/139731) and many had fertile fronds, prompting the use of cameras; regrettably, moonwort was not found here. The area is rich with orchid species, for which it is renowned and the spoil heaps were thick with common twayblade (*Listera ovata*), yet to flower. *Dryopteris filix-mas* filled the spaces between the large limestone blocks at the foot of the old quarry face.

We returned to the Monsal Trail and set off in the direction of Priestcliffe Lees Nature Reserve. A solitary *Asplenium scolopendrium* with crisped fronds was seen, occupying the side of a deep ditch. The ledges and crevices of the cuttings supported *Cystopteris fragilis*, *Asplenium adiantum-nigrum*, *A. ruta-muraria* and extensive and probably aged tufts of *A. trichomanes* subsp. *quadrivalens*. A lone *Gymnocarpium robertianum* was spotted in a crevice mid-way up the rock-face. By the edge of the trail, a wooded area of scree overlooking the river was densely populated with *A. trichomanes* subsp. *quadrivalens* (43/151731). There wasn't time to visit the nature reserve, so we took the opportunity to cross the river by the timber foot-bridge to return to Miller's Dale and the Fisherman's Rest (43/143734) for lunch. Along the lane beside the river we saw *Equisetum fluviatile*, very tall and branched, and, in the shade of the willows, *Polystichum aculeatum* and *Polypodium interjectum* on the roadside bank.

After lunch we entered Monk's Dale Nature Reserve (English Nature) as a quick prelude to following the River Wye to Chee Tor. This gave us many of the ferns previously seen, along with *Equisetum arvense* at the edge of the stream. Taking a short cut up the dale side to rejoin the trail, Barry Wright found a small colony of *Botrychium lunaria* (43/141734); the fertile fronds were quite evident, brown and heavy with spores. A search of the immediate area for more plants was, unfortunately, without gain.

Our walk to Chee Tor (43/123733) gave us, at the entrance to the railway tunnel (now closed), our first *Dryopteris dilatata* of the day, *D. filix-mas* and *Athyrium filix-femina*. There was *Equisetum arvense* along the banks of the river. This steep-sided and tree-shaded area was well populated with *Polystichum aculeatum*, and *Dryopteris affinis* subspp. *affinis* and *borreri* were also present. Beneath the Tor, the river is narrowly confined between high cliffs. Here, Flag Dale joins the Wye and Wormhill spring rises and bubbles from the ground, seemingly copious, cold and clear. There was *Asplenium scolopendrium* in abundance here, in varying stages of development. It was agreed that a fern seen close by the water's edge on the opposite side of the river was a *Polypodium*, possibly *P. interjectum* and not, as first thought, *Polystichum aculeatum*; the narrow fronds had an estimated length of 50-60cm. After taking many photographs we returned to the car park.

'Fascinating Ferns' – Nidderdale, North Yorkshire – 29 June Robert Adams

This Leeds & District Fern Group meeting took place on Saturday 29th June in combination with a Nidderdale Festival event. Under the title of 'Fascinating Ferns', the purpose of the event was to introduce people to the subject of pteridology, in particular the identification of native species, and also to give members of our Group the opportunity to explore Skrikes Wood (44/153643), the privately owned site of the meeting. No member of Leeds & District Fern Group, other than myself, actually attended, but twelve enthusiastic (and fee-paying) members of the public spent a pleasant day looking at the ferns of this attractive site.

Altogether thirteen species of fern were found: *Pteridium aquilinum*, *Athyrium filix-femina*, *Dryopteris filix-mas*, *D. dilatata*, *D. affinis* subsp. *affinis*, *Blechnum spicant* and *Oreopteris limbosperma* in the woodland soil itself, with *Asplenium scolopendrium*, *A. trichomanes* subsp. *quadrivalens*, *A. ruta-muraria*, *Polypodium interjectum* and *Cystopteris fragilis* growing in the mortared walls. All these species were viewable from footpaths, as required by the Health and Safety rules of the Nidderdale Festival. Permission was obtained from the owner of the wood for anyone who wished to do so to explore away from the paths after the event itself had finished. Only two of us did so. Scrambling over the large sandstone boulders that lie in the stream that flows through this deep-sided woodland, we eventually found two patches of *Hymenophyllum wilsonii*.

Several of the participants confessed to being captured by the fascination of ferns and asked for further information including details of the BPS, so I feel justified in calling the meeting a success despite the absence of BPS members.

Castlebeck and Scar Woods, North York Moors – 20 July Barry Wright

The prospect of deteriorating weather did not dissuade a hardy band of members from exploring these woods in the North York Moors. Ken Trewren had originally intended to run this visit, but he was unexpectedly called away on a foreign trip. As a contingency we had arranged for me to go round the woods with him before he left, so that, on the day, I had more than a fighting chance of locating some interesting ferns in such a large tract of woodland.

We met at 44/950980 and the day began with a fruitless excursion to attempt to locate some *Phegopteris connectilis* along one of the tributaries of the river (44/949985). We also tried again to locate a colony of *Trichomanes speciosum* gametophyte along another tributary (44/946980) where Ken was sure he had seen it. This again proved fruitless so we began the long walk down the valley towards some other tributaries feeding into the river. Along the way we saw *Athyrium filix-femina*, *Blechnum spicant*, *Dryopteris affinis* subsp. *borreri*, *D. dilatata*, *D. filix-mas*, *Oreopteris limbosperma*, *Polypodium interjectum*, *Polystichum aculeatum*, the ubiquitous *Pteridium aquilinum* and *Equisetum palustre*. These tributaries proved to be more rewarding, with good colonies of *Dryopteris aemula* being recorded: I missed the *D.* x *deweveri* (*D. carthusiana* x *D. dilatata*). Further along the trail we visited a rock that Ken and I had seen earlier and we were able to find a very small patch of the gametophyte of *Trichomanes speciosum*.

As the weather continued to deteriorate we began the journey back to the cars along another tributary valley at 44/950969. It was along here that we encountered some of the more unusual morphotypes of *Dryopteris affinis*, including a very foliose form that Ken has found in several locations throughout the North York Moors and also *Dryopteris affinis* 'morphotype *insolens*'. It was also interesting to discover good colonies of *Phegopteris connectilis* and the horsetails *Equisetum telmateia* and *E. sylvaticum* growing side by side in the saturated woodland soils. We were not sure whether it was raining heavily outside, or whether it was the residual moisture falling from the trees, but we seemed to be getting more and more saturated as time went by. All was to be revealed when we finally emerged at the road and came out into sunshine.

As we finished a bit early we then went back to Forge Valley to admire the huge stands of *Equisetum telmateia* at 44/982874. We also tried again to find the *Polystichum* x *bicknellii* (*P. aculeatum* x *P. setiferum*), but could only find the two parent species, along with some *Asplenium scolopendrium*. A good day nonetheless.

Brodsworth Hall, Melton Woods and Sprotborough, Doncaster, South Yorkshire – 10 August **Barry Wright (a.m.) & Ann Robbins (p.m.)**

This visit was to be our main horticultural excursion and was to be something of a treat and a surprise all at the same time. The horticultural element was to be our first visit to see the Eric Baker fern collection. It is always a fitting memorial when someone has their cherished collection of plants lovingly reinstated in new surroundings. In this case it is at the stately home Brodsworth Hall (44/505071) under the guardianship of David Avery, the Hall's head gardener.

photo: B. Wright

Fernery at Brodsworth Hall

Pat Cole, David Avery (Head Gardener), Tim & Elsie Mott, Ron Cole, Anne Gill

We were met by David, who escorted us down to the fernery. I had little concept of what was about to be revealed to the group. I have seen fern grottoes in the past, but this had not prepared me for the magnificent splendour of this expertly restored Victorian fernery. The sheer grandeur of the construction has to be seen to be believed. The effort that David and his team have put into the construction has to be wholeheartedly applauded. The planting has been skilfully and sympathetically done. Unfortunately, as with many translocations, a number of the names seemed to have been lost or become mixed up. We had intended to return later on in the year to attempt to correct some of the misnaming and to name others that were lacking labels, but personal commitments on my part precluded this. However, we do plan to revisit next year and carry on supporting this collection by helping with the

cataloguing and, where we can, helping to expand the collection to include species that Eric did not possess.

After a light lunch in the café we headed off for the field part of the day, which was led by Ann Robbins.

South Yorkshire is rather a fern desert, but there is a ridge of carboniferous limestone running north/south between Sheffield and Doncaster that seemed as though it might be worth investigating. We visited Melton Wood (34/518032), which is managed by Doncaster Council and comprise 250 acres of mixed woodland with some areas of beech and some of conifers. Disused lime pits in the wood could be interesting. There were few ferns to see but *Dryopteris filix-mas*, *Pteridium aquilinum*, *Athyrium filix-femina* and *Dryopteris dilatata* were present. We saw a large number of meadow brown (*Maniola jurtina*) butterflies along the bramble-lined rides; someone thought there must have been a recent hatching. I had seen a single specimen of *Asplenium scolopendrium* on a previous visit, but did not refind it 'on the day'. (Melton Wood website: http://www.doncaster.gov.uk/leisure/document.asp?WSDOCID=722)

After a drink at The Boat, Sprotborough (44/537014) we set off for Scaba Wood (44/539011), which runs alongside the River Don at Sprotborough. After almost an hour of looking no ferns had been found and one member of the party had been stung by a wasp; it seemed as if the day was going to end on a down beat. But, having turned for home and moved back from the river through areas that must at one time have been quarried, we found a splendid colony of *Asplenium scolopendrium*. There were many hundreds of plants, but, interestingly, no other ferns at all.

[Ann's description is more than a little restrained. I personally have never seen so many *Asplenium scolopendrium* in one place at the same time. It was positively primeval. So many luxuriant specimens clothing and dripping from every bank, rocky outcrop and cliff. There were actually one or two other ferns about, but very inconspicuous – one *Dryopteris filix-mas* and two *D. affinis* subsp. *borreri*. It is also the first time I haven't had to write down bracken (*Pteridium aquilinum*) on a group meeting. So that must be a record as well!

Ann, in her modesty also omitted to report that she invited us all back to Scrooby for tea and buns. Thanks to Ann, not only for that, but also for the unexpected treat at Scaba Wood. *Barry*]

Bolton Abbey Woods, Bolton Abbey, Wharfedale, North Yorkshire – 7 September

Barry Wright

Following a lecture that I gave to the Bradford Botany Group, I was asked if I could lead a fern visit to show their members some of the characteristics of the more commonly encountered British ferns. With this in mind, I decided that one of the best places to take people where they could see a good range of species was the woodland bordering the Wharfe at Bolton Abbey (44/078553 to 44/059568). It was here that we had earlier recorded a wide range of species accessible from the carriage drive bordering the river.

These woodlands are characterised by having a mixture of soil conditions ranging from acidic to alkaline. This offers a unique opportunity for a variety of ferns to grow. In addition to the ferns growing in the soil we finally found out that there is a use for sycamore trees; some of the larger specimens close to the river were acting as epiphytic host for colonies of *Polypodium interjectum*.

In addition to this species we also found good quantities of *Dryopteris filix-mas*, *D. dilatata*, *Athyrium filix-femina*, *Dryopteris affinis* subsp. *borreri* and, of course,

Pteridium aquilinum. Some of the less frequent species included *Polystichum aculeatum*, *Blechnum spicant*, *Asplenium scolopendrium*, *Equisetum arvense*, *Oreopteris limbosperma*, *Phegopteris connectilis* and *Gymnocarpium dryopteris*. There was also a small colony of *Cystopteris fragilis* on a small stone-built bridge underneath the footpath at 44/079554.

In addition to studying the ferns within the woods at Bolton Abbey we went down to the Abbey itself (44/073541) and recorded *Asplenium trichomanes* subsp. *quadrivalens* and *A. ruta-muraria*, along with one or two specimens of *A. scolopendrium*. At the front of the Abbey there was a ha-ha that was colonised by an extensive covering of *Polypodium interjectum*. According to one of the party we were with, there are records of the gametophytes of *Trichomanes speciosum* close to the river.

Altogether a very successful meeting, particularly because of the large numbers we entertained. I tried to make a headcount but lost count at 36. And, despite this being a return visit for our local group, eight of our own members were part of this number. I hope that I was able to inspire the botany group and show them that there is interest in plants without showy flowers.

SOUTH-EAST

Highgate Cemetery, Stefan Czeladzinski's Garden and Lea Valley Park, London – 1 June

Pat Acock

Six of us met Stefan outside Archway Tube Station on a beautiful spring morning. After the introductions we proceeded up Highgate Hill, where we cut through Waterlow Park. Having paid our dues we entered Highgate Cemetery (51/286870) and were immediately greeted by large quantities of *Equisetum telmateia*. We were soon to discover that this plant permeates large areas of the cemetery where water comes near the surface of the overlying clay. There were interesting plants in this well overgrown and wooded graveyard but the pteridophytes numbered only three species, namely *Equisetum telmateia*, *E. arvense* and *Dryopteris filix-mas*. We did, however, discover a splendid cultivar of *D. filix-mas* from the Cristatum Group. Passing back through Waterlow Park another way we saw a few more ferns including a cultivar of *Athyrium filix-femina* and *Dryopteris affinis* 'Cristata' (The King).

Following lunch at Stefan's favourite pub chain, we either walked or motored to his house in Canonbury. We guessed that we were approaching his house, as basement gardens all seemed to have an unusually high number of ferns of a more choice nature; it turned out that earlier in his career Stefan used to attend to a few of these and always included a couple of ferns, or more if he could get away with it.

We met Stefan's friend, the delightful Amela, who produced teas and coffees in copious quantities. In the house, Stefan had designated rooms as continents. He had put appropriate selaginellas along with references and literature on the specimens into each 'continent room'. He has made a real study of the genus, collecting floras, correspondence and papers from authorities in the field. More surprising is his unique way of growing the plants. Stefan uses the clear bottles from office springwater dispensers. When the plant outgrows its bottle he simply cuts a middle section from another bottle and inserts it into the centre of the existing bottle. Many of the towers are three or four bottles high and the selaginellas simply romp away, seemingly unaffected by touching any condensation on the sides of the bottles.

Stefan's other plants included a sizeable selection of horsetails, British natives and other ferns he has been interested in over the years. We could not see many of his adiantums as they were still on their journey back from The Chelsea Flower Show but he still had half a dozen interesting species.

We then made our way to the Lea Valley Park (51/357867) to see some interesting horsetails in the flat marshy environment of the lower Lea Valley. At the Park's entrance we immediately spotted three umbellifers including some majestic *Heracleum mantegazzianum*. Later we were to find a further three on the riverbanks. There were marvellous plants in the area, but despite extensive searching we could only find two horsetails, *Equisetum palustre* and *E. arvense*.

We duly thanked Stefan and Amela at the end of another very pleasant and unusual day not far from the centre of London, and wonder what Stefan will come up with next year.

New Forest, Hampshire – 20 July **Paul Ripley**

Our numbers were augmented by members of the Hampshire and Isle of Wight Wildlife Trust's Flora Group, and altogether about 25 of us assembled in the New Forest at the Crockford Bottom car park between Beaulieu and Lymington (40/350990). The meeting was planned and organised by Jo Basil, who found us some most interesting sites, quite different from our usual habitats.

We headed north towards the old airfield (41/352001), and on very poor acid heathy soil found the two ophioglossums that we had come principally to see: *O. vulgatum* and *O. azoricum*. In wet flushes/shallow ponds we saw the unmistakable fresh green of *Pilularia globulifera* (with pills) and nearby was *Lycopodiella inundata*, not to mention interesting *Drosera* species and other plants characteristic of this area. We also saw *Pilularia* in old tank traps beside the B3054.

After lunch we explored for a short distance the stream on the other side of the road (40/352989). *Osmunda regalis* was growing on the stream banks, and we also found *Athyrium filix-femina*, *Dryopteris filix-mas*, *D. dilatata* (also common on drier heath areas), *Equisetum fluviatile*, *E. telmateia* and *E. arvense*.

We gained enormously from the expertise of the Trust's members – we were delighted to have a grass snake shown to us for instance – and hopefully may have gained another member or two for the BPS.

We then moved to Spinner's Nursery, run by Kevin Hughes (another possible new member?) in Boldre (40/318976). There is a beautiful garden here and the nursery benefits from collecting forays abroad by Kevin and his friends. Of particular interest in the garden were the woodwardias *W. unigemmata* and *W. areolata* looking particularly impressive. *Pteris wallichiana* made a very handsome plant, as did *Blechnum nudum*. All these plants appeared to be quite hardy. We were also struck by a *Polystichum (P. proliferum?)* with a definite trunk.

We were splendidly entertained to tea by Jo and Ashley at Boldre. Amazingly, their children are still alive after playing on the home-made assault course in the garden. In the evidently child-free zone behind the house we were pleased to see the Basil's interesting and well grown fern collection.

Very many thanks, Jo, for a fascinating and varied day.

Frensham Common, Surrey, and Fred and Sue Rumsey's Garden, Aldershot, Hampshire – 21 September **Pat Acock**

Thirteen members and one dog met at Frensham Great Pond (41/845406) at this northern corner of the southern heathlands. People had travelled from as far afield as Peterborough and Bournemouth, for which we were grateful. Frensham Common, owned by the National Trust and managed by Waverley Borough Council, is better known for its reptiles and amphibians (all British species occur here) than its pteridophytes, but we managed to wheedle them out one at a time until we had quite a good list.

Failing to find the tea-shop at the ranger station open, we pooled our resources and managed tea for all before setting off to circumnavigate the Great Pond. To start with we thought we were going to find only bracken but we soon found a little stream flowing out of the Great Pond and our tally of ferns rose to four (*Pteridium aquilinum*, *Dryopteris dilatata*, *D. filix-mas* and *Athyrium filix-femina*), with a few bramble-torn legs acquired during the hunt. Past the hotel we came across a marshy area and a stream flowing into the Great Pond and this proved even more ferny, with *Dryopteris carthusiana*, *D. affinis* and *Polypodium vulgare*. A little further along the trail were two very large clumps of *Polypodium* x *mantoniae* separated by a hundred yards. Nearly three quarters of the way around the woody edges of the lake were many of the ferns discovered earlier, plus *Equisetum fluviatile* with a surprisingly high and even numbers of side branches.

As we approached the ranger station we met one of the rangers, who was very interested in our finds and we promised him a full list of ferns.

photo: P.J. Acock

South-East Group at Frensham Common

Tim Brock, Steve Munyard, Peter Clare, Paul Ripley, Karen Munyard, Grace Acock, Andy Martin, Jill Clare, Jo Basil, Marti Martin, Robin & Jennifer Walls, Ashley Basil

After a packed lunch we set off for Frensham Little Pond. Jill Clare explained to some of us various points on the management of the heathland between the two ponds; we were trying to distinguish between the different species of gorse when we realised that we were a long way behind the rest of the group. It is quite easy to lose one's sense of direction in this featureless terrain, and by the time we were back together we realised that we had actually gone in four different groups in four different directions. With the aid of a compass we found the best path to the Little Pond, where we added *Equisetum arvense* to the list and saw many of the other ferns seen in the morning, including some fine specimens of *Dryopteris carthusiana* in a marshy inflow to the pond. At the dam end of the pond we saw *Asplenium ruta-muraria* and *A. adiantum-nigrum* and in the woods behind the dam a few of us found a good candidate for *Dryopteris* x *deweveri*. Wearily we carefully followed the waymarks back to the ranger station in time for more tea and ice-cream.

We now made our way to Fred and Sue Rumsey's home in Aldershot. In Fred's street there is a large colony of *Equisetum* x *litorale* in a seep line. We were met by our hosts for a guided tour of the garden. Needless to say it was packed with fascinating ferns. Most were European or Macaronesian, with a few interesting ones from further away, such as a magnificent plant of *Polystichum vestitum* from New Zealand. The other plants were all unusual and selected by Fred for their uniqueness. I especially liked the euphorbias and *Bupleurum fruticosum*. We were also treated to a browse through Fred's library.

We should like to thank Steve and Karen Munyard, who planned and led the day, for all their hard work, and Fred and Sue for a splendid tea and garden visit that rounded off the day perfectly.

St Leonard's Forest, West Sussex, and Ewhurst, Surrey – 12 October

(Leaders: Graham Ackers & Lesley Williams) **Peter Clare**

Sheepwash Gill. This Sussex Wildlife Trust nature reserve comprising a steep, narrow Wealden stream valley in St Leonard's Forest, near Horsham, West Sussex, was the first venue of the day.

Ten members met in Roosthole Forestry Commission car park (51/209298) and, undaunted by the wet weather, proceeded down the path into the Gill. We made our way upstream, crossing and re-crossing the meandering stream as we went. Clambering over numerous fallen trees we were rewarded for our efforts by the sight of some quite magnificent stands of *Blechnum spicant* – very large specimens bearing tall fertile fronds. We also noted several specimens of *Oreopteris limbosperma*, some of which were also large. Other ferns we encountered were *Athyrium filix-femina*, *Dryopteris dilatata*, *D. filix-mas* and *Pteridium aquilinum*. Jack Hubert spotted some lily-of-the-valley, *Convallaria majalis*, growing in one small area; this species also occurs in other places in St Leonard's Forest.

We made our way back to the car park via a higher path flanked by some very large beech trees.

Architectural Plants, Nuthurst, West Sussex (51/194261). I was particularly keen to visit this nursery, as it has a reputation for supplying a wide range of plants, including specimen plants and bamboos. I had also heard about its somewhat unusual wooden buildings. The nursery is very well laid out and very clean and tidy. The stock is healthy, well labelled and well cared for. There is a range of pot-grown ferns, mainly 'evergreen' because that is what customers demand, including *Asplenium scolopendrium*, *Blechnum chilense*, *B. spicant*, *Cyrtomium falcatum*, *Dicksonia antarctica*, *Polystichum munitum*, *P. polyblepharum*, *P. setiferum*, *Pteris cretica* and *Woodwardia radicans*. Outside, behind the wonderful wooden office building, we saw *Blechnum chilense*, *Polystichum munitum* and *Woodwardia unigemmata*.

The owner, Mr Angus White, once a member of this Society, suggested that we might like to see some *Dicksonia antarctica* sporelings, which had appeared on the banks of a deep ditch under some larger *D. antarctica*. The youngsters were growing *in situ* and one was already forming a trunk. Further investigation of this area revealed hundreds of sporelings growing further upstream on the vertical sides of the streambank. We also noted *Dryopteris affinis* subsp. *borreri* var. *robusta* and *Athyrium filix-femina*.

We managed (just!) to tear ourselves away from this marvellous place to adjourn for lunch in the adjacent Black Horse pub (a masterstroke of nursery siting, Angus!).

Our thanks to Angus White for letting us run amok in his stream.

Sayers Croft Field Centre, Ewhurst, Surrey (51/089399). We were met by Lesley Williams, who works at the Centre and was to be our guide for this venue. Sayers Croft used to house evacuees during the Second World War, and we saw photographs and war memorabilia in one of the buildings. Lesley also showed us an American crayfish that was found in one of the ponds on the site. The brute was now lurking in an aquarium, and was not at all intimidated by us peering in at it.

We moved on to a field of unimproved grassland, recently acquired by the Sayers Croft Environmental and Educational Trust, and were shown two plants of *Oreopteris limbosperma*. We then headed on to explore another site, Coneyhurst Gill, in woodland also recently acquired by the field centre. Ferns seen included *Athyrium filix-femina*, *Asplenium scolopendrium*, *Blechnum spicant*, *Dryopteris affinis* subsp. *borreri* and subsp. *borreri* var. *robusta*, *D. carthusiana* and *D. dilatata*, many of which were deer-browsed. Tim Brock pointed out an undulate form of *Asplenium scolopendrium* and Steve Munyard found a plumose *Athyrium filix-femina*. On the way back through the field centre we saw a large specimen of *Dryopteris affinis* subsp. *affinis* growing by one of the ponds.

Graham and Lesley's garden, Walliswood, Surrey. We were treated to a wonderful cream tea and shown around the garden to inspect the fern collection, the aquatics and the conservatory plants. Later on, Paul Ripley, Howard Matthews and Andrew Leonard showed slides.

Our thanks to Graham and Lesley for a truly great day.

EAST ANGLIA

Indoor Meeting, Little Thurlow, Suffolk – 27 January — Rosemary Stevenson

It was with great pleasure that 13 members and friends once again converged on Little Thurlow for what has become our traditional mid-winter raising of the spirits by reminders of past fern hunting successes and whetting of appetites for our planned visits in the warmer months to come. As always, Mary Hilton welcomed us into her beautiful home with the blazing log-fire contributing to the festive feel of the occasion.

This year our speaker was a member of our own East Anglian Group. Most of us knew that Anne Beaufoy had taught in Australia for the majority of her career and that she is, in addition, an inveterate traveller to places of interest. So it was with keen anticipation that we settled down to view the slides illustrating her talk entitled 'Botanical Wanderings with a Ferny Flavour'.

Anne's attention was first drawn to ferns when, as a teenager, she was involved through her local Natural History Society in Suffolk with a botanical survey of each parish in her area. Visits to relatives in Devon then provided the ideal location for rapidly expanding her interest in and knowledge of ferns. Her reference books were the cheap, second-hand volumes of Victorian fern manuals, which were still readily available at that time. Armed with these, her explorations led her first to the higher, inland area of Dartmoor where she discovered the more common ferns as well as *Hymenophyllum tunbrigense* and *H. wilsonii*. The Devon lanes provided another rich source of ferns, which mixed happily on the banks and walls with wild flowers. On the coast she discovered *Asplenium marinum* and *A. obovatum* subsp. *billotii* as well as *Cuscato epithyrium* (lesser dodder) and *Scilla autumnalis* (autumn squill).

East Anglia, perhaps the driest part of the country, is not a promising place for a fern addict to live. As a group we know only too well the difficulties experienced in tracking down fern

sites, so could appreciate Anne's skill in finding and photographing examples. The Broads were the source of her illustrations of *Thelypteris palustris*, *Dryopteris carthusiana* and *D. cristata*, which were of particular interest. What East Anglia lacks in ferns it certainly makes up for with its many interesting wild flowers. Anne possesses an extremely wide knowledge of botany, and indeed of all natural history, so we benefited throughout her talk when fern slides were interspersed with illustrations of other indigenous plants.

Anne showed us *Osmunda regalis* at Studland, *Adiantum capillus-veneris* at Salisbury and *Asplenium ceterach* in the Forest of Dean. Her whistle-stop British tour continued through Yorkshire, the wet Lake District, which naturally produced a feast of ferns and the Brecon Beacons in Wales where *Pilularia globulifera*, with the 'pills' clearly illustrated, was of particular interest. A few of the treasures found in Scotland were *Polystichum lonchitis*, *Asplenium septentrionale* on Arthur's Seat outside Edinburgh and, at Cove Bay on the east coast, *Cystopteris dickieana*. As a warning that fern hunting is not always the gentle occupation it might seem, Anne recalled the time when in the wilds of Scotland she was awoken from a peaceful sleep in her camper-van by a strange rocking of the vehicle. Her conviction that it must be a minor earthquake was dispelled when, upon looking outside, she discovered that the van was being vigorously licked by a huge Aberdeen Angus bull and his herd of 'wives'!

During her years in Australia Anne travelled to many different areas of the country and also visited New Zealand, so the final part of her talk illustrated some of her botanical finds in these two countries. From Australia's coastal and rain-forest areas we saw *Dicksonia antarctica* and *Lindsaea microphylla*, as well as filmy ferns growing on Antarctic beech. In Tasmania Anne found *Azolla filiculoides* and *A. pinnata* and she had captured their different forms well on film. In the drier, mountainous areas of Australia are found many of the plants that we have come to associate with that country: *Callistemon*, *Eucalyptus*, *Acacia* and *Banksia*. Ferns found included *Todea barbara* and gleichenias. Anne's photographic tour took us to a range of Australian habitats, from the coastal marshes via inland deserts to higher and alpine areas, each with its kaleidoscope of wonderful plants, some familiar but many not.

The areas of New Zealand's North Island that Anne visited presented quite a harsh environment with volcanic influence affecting the vegetation. She did, however, find filmy ferns on Mt Egmont. South Island was much more to her taste. Anne was very taken with the beautiful Lakes Matheson and Pukaki in the Mt Cook area. We were shown examples of many plants that attracted her notice, in particular the vegetable sheep, *Raoulia eximia*, which certainly looked very life-like. Ferns found on her travels included *Blechnum penna-marina*, *Polystichum vestitum*, *Asplenium flaccidum* and *Blechnum discolor*, and finally her favourite fern of all time, *Leptopteris superba*. We gathered that anyone able to supply her with a specimen or the means to grow one would end her forty-year quest to become the proud owner of this beautiful fern.

Anne was warmly thanked and congratulated on her excellent talk, which had kept us all enthralled and our afternoon finished in traditional East Anglian style with a splendid tea provided by Mary, our hostess, and all the members.

Barton Broad, Norfolk, and Gill and Bryan Smith's Garden, Oulton Broad, Suffolk – 26 May

Barrie Stevenson

On a blustery day of sunshine and showers 13 members and friends gathered at Barton Turf Staithe (63/356225), an inlet and landing stage giving access to Barton Broad, to be met by the Warden, George Taylor and his Assistant manning two typically wide, flat-bottomed fenland boats. We embarked and made our way onto the Broad, the wind whipping up white-topped waves.

We made several landings, the Warden often having to hack a path from the edge of the water through the dense growths of reed. We trod gingerly; the raft of reeds vibrating below our feet was treacherously shallow in places. (The warden demonstrated this by taking a wand of willow, which he pushed vertically through the reed roots at our feet until it disappeared; the willow wand was well over two metres in length.) We soon found a profusion of ferns, *Thelypteris palustris* being so prevalent that it was difficult to avoid treading on the fronds. We found good stands of *Dryopteris cristata* and *Osmunda regalis* and, in slightly less wet areas, *Dryopteris carthusiana*, *D. dilatata* and occasionally specimens of *Athyrium filix-femina*, *Dryopteris filix-mas* and *Pteridium aquilinum*.

We returned to the Staithe and terra firma, removed waterlogged boots and enjoyed a sunny picnic by the water's edge.

Our drive to Oulton Broad was rewarded by a visit to Gill and Bryan Smith's delightful garden, which was positively soggy in comparison with the desert-like conditions that prevail in this area later in the season. As a result of a wet spring the ferns were looking at their best and Bryan is experimenting with new plantings, in particular a mounded area backed by woodland. The mound is bisected by a deep path, so that the fern fronds may be viewed from below, particularly effective as a means of admiring the silhouettes of the fronds of a fine specimen of *Dicksonia antarctica*. Many tender ferns are well established on the sloping sections of the mound and, amazingly, Bryan erects a protective structure over the whole area in winter.

Various ferns are well established around a small pool with a floating colony of *Azolla filiculoides* and bordered with a spreading area of *Blechnum penna-marina* 'Cristata'. In a sheltered courtyard beside the house several well grown ferns flourish, in particular a fine specimen of *Polystichum setiferum* 'Plumosum Bevis'. Gill takes a very full part in maintaining their large garden, which has vast areas of grass kept in splendid condition, and a vegetable patch that is her particular delight.

We are much indebted to Gill and Bryan for their kind hospitality, and particularly to Gill for again demonstrating her superb catering abilities.

Nymans Woods and Standen, West Sussex – 29 June **Gill Smith**

For our visit to the heart of Sussex we invited the South-East Regional Group to join us, giving a total of 21 members in all, on what proved to be a hot, sunny day. Many of the East Anglian Group had decided that an overnight stay was justified to enable them to be at the meeting point in National Trust-owned Nymans Woods (51/264297) by 10.30a.m. Our guide, James Masters, recently a gardener and woodsman for the Nymans Estate, knew the whereabouts of many different ferns in the woods but said he would be interested to know how many varieties we should find. (Subsequently the full list was sent to him.)

We parked our cars in a woodland clearing near a deserted cottage previously inhabited by woodsmen and their families. We made our way into the woods passing *Equisetum arvense*, heath, spotted and common orchids, and *Polypodium interjectum* growing on tree-trunks. The mixed plantings of trees sheltered good specimens of *Dryopteris filix-mas*, *D. dilatata* and *Pteridium aquilinum*. We continued along woodland paths and found a wide selection of ferns including *Polystichum setiferum*, *Dryopteris affinis* subsp. *borreri*, *D. carthusiana* and *Athyrium filix-femina*. We soon found also *Blechnum spicant*, *Oreopteris limbosperma*, and to our great delight, *Dryopteris aemula*, specimens of which grew on the banks of a dried-up stream and in a fairly exposed position beside the main path.

We next found ourselves at a large pond fed by the River Ouse. This was a hammer pond, which had been constructed to power the bellows and furnaces of the now defunct iron works nearby. We walked along a conifer avenue lined with spruce and Californian redwoods. Alongside the avenue was a *Wellingtonia*, which was the tallest tree in Sussex until the mid-1990s when it lost its top to lightening. The scenery changed yet again with the appearance of several massive grey sandstone outcrops, one of which is called Pook's Church or Pulpit Rock, which is sheltered by trees and supports a colony of *Hymenophyllum tunbrigense*. (This site was listed in the Rev. F.H. Arnold's *Flora of Sussex*, 1907.) The next area contained pollarded sweet chestnuts, which were grown specifically for furniture manufacture. The path then took us to a bridge over a small waterway that was lined with very large specimens of *Osmunda regalis*, then up a steep bank on which grew *Asplenium scolopendrium*. Back at the car park we ate our packed lunches seated on sawn logs under the shelter of an old Sussex barn.

photo: B.R. Stevenson

Combined East Anglian and South-East Regional Groups' visit to Nymans Woods

Geoffrey Winder, Marti Martin, Tim Pyner, Albert Carter, Peter Clare, James Masters, Doreen Carter, Marie Winder, Paul Ripley, Andrew Leonard, Graham Ackers (*back*), Jane Collins (*middle*), Jack Hubert (*front*), Bryan Smith, Patrick Acock, Gill Smith, Andy Martin, Karen Munyard, Grace Acock, Rosemary Stevenson, Steve Munyard

After lunch we drove the small distance to Standen (51/389356), a house and garden owned by the National Trust. The house is a fine example of the 19th-century Arts and Crafts Movement and is set above a steep, sloping garden, commanding splendid views across the Sussex Weald. James Masters, who last autumn became Gardener-in-Charge at Standen, gave us a short history of the buildings and we then set off to discover the hidden delights of the garden.

As we walked across a bordered lawn below the house, the first ferns spotted were two *Dicksonia antarctica* growing either side of a summer-house. Fairly small but trunked specimens, having been planted two or three years earlier, they had obviously survived winters without any special attention. Also in these borders were *Matteuccia struthiopteris* and large specimens of *Athyrium filix-femina*, thriving in the seepage of moisture from the higher ground. In a wilder area of the garden were found *Dryopteris filix-mas* and *D. dilatata* and, in damp ground, an enormous stand of *Osmunda regalis* that was releasing

clouds of fresh spores. After wandering across lawns and beside colourful borders we noted such ferns as *Onoclea sensibilis*, *Polystichum tsus-simense* and *P. setiferum*, while *Asplenium trichomanes* and *A. adiantum-nigrum* occurred in the stonework of the terrace below the house.

We next made our way to higher ground behind the house and, crossing a wooden bridge, looked down into a Victorian fern grotto. A cliff below our feet ran down to the grotto floor, the constantly trickling water supporting a colony of *Osmunda regalis* that grew in profusion, the mature plants surrounded by a green haze of sporelings. We descended by a steep path to the floor of the grotto, where James explained that this area is known as the Quarry Garden; stone was excavated from here and used in building the house. The steep, rocky walls of the quarry have been colonised by ferns in profusion, with tree cover above so that sunlight is minimal, and a waterfall and pool provide the humidity that ferns love. We noted specimens of *Asplenium scolopendrium*, *Blechnum spicant*, *Phegopteris connectilis*, *Gymnocarpium dryopteris* and masses of *Athyrium filix-femina* cultivars that had obviously crossed and back-crossed for the past hundred years.

James called the Quarry Garden a magic place, as indeed it is, and as we left the ferny coolness and emerged into the heat of the sunlit terrace in front of the house, we agreed that this was a fitting end to a most enjoyable, fern-filled day.

Danbury Ridge and Westcliff-on-Sea, Essex – 8 September **Anne Beaufoy**

Nineteen members of the East Anglian Group had the pleasure of the leadership of Essex Wildlife Trust's Geoff Ford when we visited the undulating woodland ridge at Danbury (52/1787057).

Early rain had laid the dust under the mixed canopy, which comprised mainly mature trees, hornbeam being prominent. Other areas are managed as coppice (with the help of deer protection fencing) and there are some open heathland patches. This variety of underlying soil types and drainage (gravel, boulder clay and peat) allows a wide range of fauna and flora to flourish and provides good conditions for several species of fern.

Very fine clumps of the broad buckler, *Dryopteris dilatata*, were seen in a boggy area, with narrow buckler, *D. carthusiana*, nearby, and a vigorous probable hybrid, four feet high, growing next to them. Another wet area gave us the less widespread marsh fern, *Thelypteris palustris*, while the lady fern, *Athyrium filix-femina*, graced many a damp ditch-side, although those in nearby drier areas had suffered in the recent dry spell. *Dryopteris affinis* subsp. *borreri* coped better with the more freely drained areas. Our greatest delight, perhaps, was a splendid patch of hard fern, *Blechnum spicant*, with some three hundred specimens growing on a sloping area of damp clay. Their fertile fronds, though, were few in number – they had proved too tempting for the deer and rabbits. Many other items of interest included lichen patches, lily-of-the-valley leaves and dormouse boxes fixed to trees.

After a picnic lunch we drove to Tim Pyner's house on the outskirts of Southend. His small and very sheltered garden is chock-a-block with exotic plants of a hardy nature, and he has listed 130 fern species in the raised peat beds and containers. Only a few of these are British species, and of the foreigners a mere handful have yet to be checked for present-day winter hardiness.

In addition to Tim's hospitality, including welcome refreshments, we also enjoyed a talk by John Woodhams, formerly Assistant Curator of Tropical Collections at Kew. His slide presentation 'For the Love of Ferns' gave us a fascinating insight into the worldwide collecting of fern species for the Botanic Gardens, taking us to a far-ranging selection of sites and detailing the close study of the ferns' local habitats and growth characteristics that gave him and his colleagues clues to their requirements when confronted with the

difficulties of cultivating and propagating the plants. John concluded his talk with the story of the restoration of a private late-Victorian fern-house near Kew.

We thank everyone involved in the day's activities for their kind contributions to our knowledge and enjoyment.

End of Season Meeting, Barrow, Suffolk – 3 November **Barrie Stevenson**

At the time of writing members have a further meeting to look forward to, our annual visit to Marie and Geoffrey Winder where we shall reminisce after a most enjoyable season, aiding our memories with a collection of photographs and slides. There will be an exhibition of late-Victorian nature-printed and colour illustrated fern books, a bring-and-buy fern sale and finally, a superb spread of refreshments for which this meeting is particularly well known.

NORTH-WEST

Brantwood, Coniston, Cumbria – 8 June **Peter Hindle**

In somewhat inclement weather 22 members assembled for a return visit to the home of the Linton collection and to explore other areas of the Brantwood estate (34/313958). Before setting out we made a presentation to Marjorie Garstang in thanks for founding the North-West Group and organising its meetings over the last seven years.

Eric Baker had provided us with an excellent description of Brantwood (*BPS Bulletin* 4(6): 270, 1995) and members were able to use this as a general guide. He had pointed out the need for accurate naming and labelling of the ferns and it was good to see that that was being done, albeit slowly, as agreement over identification is not always easy to obtain. *Dryopteris carthusiana* is now well established in several spots, and on the high level path that runs from the main 'Linton Garden' to the lake we were able to reach general agreement on the presence of the following *Dryopteris affinis* taxa: subsp. *borreri* var. *robusta*, subsp. *affinis* var. *paleaceolobata* and also a possible *D.* x *complexa* nothosubsp. *complexa*.

The whole collection has matured wonderfully during the years since our last group visit as a result of the care lavished on it by Sally Beamish and her team. Many challenges remain, particularly that voiced by Eric in his plea for more *D. affinis* specialists to lend a hand with identification.

Our special thanks go to Sally Beamish for showing us around and to other workers at Brantwood for maintaining such high standards.

One note for intending visitors: if it is both drizzling and muggy, take plenty of insect repellent. Later in the day we saw workers in the garden wearing bee-keepers' veils!

Arnside, Cumbria – 29 June **Frances Haigh**

From Arnside Promenade (34/454786) 19 members checked out the *Adiantum capillus-veneris* on the limestone cliff a few minutes walk away. Other plants behind nearby bushes were also inspected. All were flourishing.

Then we moved to private land to conduct a survey that had been requested by the owner. This is one of the few Cumbrian sites of *Thelypteris palustris*, comprising a dense and thriving colony that was accessed with difficulty because of high water levels. Apart from a deep peaty area with a pond, the site was limestone grassland, mostly grazed by cattle. Around the pond were *Equisetum arvense* and *E. palustre*, with *Athyrium filix-femina* under trees. *Dryopteris filix-mas* and *D. dilatata* were present but we didn't find any

D. carthusiana despite the suitable habitat. *Asplenium scolopendrium*, *A. ruta-muraria* and *A. trichomanes* subsp. *quadrivalens* grew, mostly around the boundaries, with a few fronds of *Polypodium interjectum* on a fallen tree. There were also a few plants of *Polystichum aculeatum* and one *P. setiferum*; much interest centred on two shuttlecocks that did not have clear-cut identities. They seemed to be like a hard form of the soft shield fern.

After a picnic lunch we parked at 34/473804 to walk along a disused railway running between steep banks, much of which is exposed limestone. In the damp, shady conditions were prolific displays of *Asplenium scolopendrium*, some with forked fronds, and also *A. trichomanes* subsp. *quadrivalens*, *Polypodium interjectum*, *Dryopteris filix-mas*, *Polystichum aculeatum* and *Equisetum arvense*. The only new find was *Cystopteris fragilis*.

After a short return walk along the estuary there was tea at the leader's house; she was grateful for advice on her fern growing.

Many thanks to the owner of the *Thelypteris palustris* site, who wishes to remain anonymous.

Whitbeck, Muncaster and Ravenglass, Cumbria – 17 August **Jack Garstang**

photo: F. Haigh

North-West Group at Muncaster

Brian Haskins, Cynthia Kelsall, Alec Tate, Joan Hindle, Geoff & Julia Wilkins,
Roy & Denise Copson, Harvey Shepherd, Ann Haskins, Peter Hindle, Melville Thomson,
Michael Hayward, Jack & Marjorie Garstang, Thelma Tate

Nineteen members met in the lay-by at Whitbeck church (34/118839). A rough track runs north through the township along the western flank of Black Combe at about 200 feet above sea level and about one mile inland. This is an area of high insolation with daily on-shore anabatic salt-laden winds, making it a favourite place for ferns and parascenders alike. A quarter of a mile along the track the retaining wall holds several colonies (discovered by the writer in January 2001) of *Asplenium obovatum* subsp. *lanceolatum*. We also found *Dryopteris filix-mas*, *D. affinis* subsp. *cambrensis*, *Athyrium filix-femina*, *Polystichum*

setiferum 'Divisilobum', *Osmunda regalis*, *Asplenium scolopendrium* and *Pteridium aquilinum*. A further 200 yards found the party examining the over-shot water wheel at Whitbeck Mill, and the new developments taking place provoked a great deal of interest.

A ten-mile drive took us to Muncaster Castle (34/104965), whose gardens are noted for their rhododendrons, pines, the Himalayan Garden, the World Owl Centre and royal ferns. We had permission for a private viewing of *The Ferns of Great Britain and Ireland* nature-printed by H. Bradbury, by Moore & Lindley 1855 (Imperial folio, 51 plates with corresponding text), the first practical illustration of nature-printing, life-size and coloured. Following a long study and discussion, Cynthia Kelsall moved a vote of thanks to the owner, Mr Pennington, for granting access to this magnificent and rare tome. After lunch in the café, the garden and woodland walks provided *Polystichum aculeatum*, *P. setiferum*, *Dryopteris affinis* subsp. *cambrensis*, *D. filix-mas*, *D. dilatata*, *Osmunda regalis*, *Blechnum spicant*, and *B. penna-marina* in abundance around the remains of the old raised garden. It was rumoured that Muncaster once had a *penna-marina* lawn! The osmundas, we were told, were planted about 1910. Finally, a trio of ferns that we first saw three years ago as single immature fronds have developed and could be identified as *Polystichum munitum*. Now where did they come from and in such a rough, overgrown location?

A short drive down the hill found us in Ravenglass (34/0896), once the Roman port and fort of Glannaventa, which is situated at a unique meeting of the Rivers Esk, Mite and Irt. A walk along the beach to the boundary of Glannaventa brought us to the largest display of wild growing *Polystichum setiferum* to be seen in this area, some with fronds four feet long, and sharing the site with numerous undulate *Asplenium scolopendrium*. The walk back to the village via the Roman bathhouse (still standing), showed us the usual mixture of woodland ferns with the stone walls holding *Asplenium adiantum-nigrum*, *A. ruta-muraria* and *A. ceterach*.

The meeting was favoured with beautiful weather, good facilities, free parking and plenty of cafés, not to mention magnificent scenery.

AGM, Holehird, Windermere, Cumbria – 12 October **Peter Hindle**

The Annual General Meeting was once again held in the Garden Room at Holehird (35/410009). Nearly 40 members attended.

In the morning we had an illustrated talk on 'Varieties of *Polystichum*' by Robert Sykes and in the afternoon Alastair Wardlaw spoke to us about 'A Garden of British Ferns', with particular reference to those needing special protection in the Glasgow area.

During the lunch break we were able to walk in the garden and view the National Collection of *Polystichum* held at Holehird and looked after by Cynthia Kelsall.

The results of the Potted Fern competition were: (a) Native British Ferns – Harvey Shepherd, and (b) Indoor Fern Michael Hayward. By request, the judges gave us some valuable hints on presentation and on what points they were looking for. These were very much appreciated. The fiendish Fern Name competition was narrowly won by Anne Wright.

As usual, the fern and plant stall proved a great and remunerative attraction. Special thanks here to Alec Tate, who has run the stall for so many years with good humour and some hard bargaining.

Marjorie Garstang brought along her gift (see Brantwood report) for all to admire, and Jack Garstang was made a suitable award for his assistance to her.

The AGM was brief and business-like, with many suggestions made for next year's programme.

The 'Jacob's Join' tea that ended the proceedings was up to its usual high standard.

CORNWALL

Ian Bennallick

Botanical Cornwall Group – Introduction

This informal group was formed following a meeting in February 2002 of 16 local botanists, and is open to all those who enjoy the identification, recording and conservation of Cornwall's (and Isles of Scilly's) flora, including ferns.

Eleven successful field meetings in various parts of the county have been held at the time of writing, with five more planned for the remainder of 2002. Some meetings were organised specifically to relocate and record particular species, and others as more habitat-based meetings and for tetrad recording. They have proved an excellent way of adding to our knowledge of the distribution of ferns in Cornwall. New locations were found for some species and rarer ones relocated. One of the most rewarding aspects of the field meetings has been that the group has welcomed botanists from other parts of the country.

The following is a brief account of each meeting held.

Indoor meeting, Cornwall Wildlife Trust – 20 February

This indoor meeting concentrated on the distinctive flora of the Lizard peninsula and was intended as an introduction to four of the field meetings planned. Rose Murphy expertly demonstrated, with the aid of many wonderful distribution maps and her knowledge and experience, the reasons why the Lizard is so special for certain species.

Kynance Cove and Lower Predannack – 20 & 23 March

The aim of the early meetings in March was to look for, amongst other species, *Isoetes histrix*. On the 20th March in high winds and sea drizzle, the group visited the area around Lower Predannack Wollas (10/6715), as well as the area around Kynance (10/6813), to ascertain the chances of seeing the rarities that Rose had spoken of in her talk in February. In more clement weather the sites were visited again on the 23rd March and on this occasion populations of *I. histrix* were found in very short coastal turf around the serpentine rocky outcrops at Holestrow (10/6912) and Rill Ledges (10/6713). Plants seen growing around the base of a rocky outcrop at Holestrow were initially very difficult to see, as similar looking rosettes of *Scilla verna* (spring squill) and *Armeria maritima* (thrift) added to the confusion. Lady Rosemary FitzGerald, so familiar with the Lizard rarities, had remarked in the past of the 'Catherine-wheel' look of the plants and with this particularly handy field hint plants were easier to distinguish, especially where they were starting to turn yellow in the drying wind.

photo: M.J. Stribley

Isoetes histrix at Holestrow, Lizard, Cornwall, 23 March 2002

A visit to Lawarnick Pit (10/681134), a natural pit formed after the collapse of a sea cave, saw the group admiring some very distinct, rather elongated forms of *Asplenium adiantum-nigrum* growing in the spaces between the Serpentine boulders. A small plant of *A. marinum* in a crevice in the cliff-face was also seen, as well as *Polypodium interjectum*, *Asplenium scolopendrium* and the ubiquitous *Pteridium aquilinum*.

Cotehele and Greystone Wood – 18 April

In April the group met at the eastern end of the county, beside the river Tamar at Cotehele (20/4268) and Greystone Wood (20/3679). The aim of the meeting was to see *Viola reichenbachiana* (early dog-violet), a species widespread in the rest of the British Isles but very rare in Cornwall where it is restricted to the extreme east of the county. Several ferns were seen. The small wooded valleys at Cotehele, an area owned by the National Trust, were luxuriant with *Dryopteris dilatata*, *Athyrium filix-femina*, *Dryopteris filix-mas* and *D. affinis* agg., and *D. aemula* was seen along a woodland track. *Asplenium ruta-muraria*, *A. trichomanes* subsp. *quadrivalens* and *A. adiantum-nigrum* were found on a stone bridge and *Asplenium ceterach*, a fern of restricted occurrence in Cornwall, along a particularly interesting old wall near Cotehele Quay. However, the most interesting species seen was *Adiantum capillus-veneris*, growing on the inside walls of a limekiln, also at Cotehele Quay, a locality long known to Cornish botanists.

Greystone Wood delighted members from the west of Cornwall. This woodland, typical of the larger valleys in the Tamar catchment in East Cornwall and West Devon, had a mixture of species not usually seen in West Cornwall, including *Lamiastrum galeobdolon* subsp. *montanum* (yellow archangel) and *Ranunculus auricomus* (goldilocks buttercup). Although no ferns of note were seen, *Polystichum aculeatum*, which had been seen in a hedge nearby, was sought on the steep, shaded banks in the woodland, but unfortunately was not found. *P. aculeatum* is very rare in Cornwall and seems to be restricted to the Tamar catchment, where it can be found in cooler northerly aspects of wooded areas, especially at the base of river cliffs. It is possibly more widespread, but access to areas beside the river is problematical so co-operation will be needed for future surveying.

Helman Tor and Breney Common – 28 April

This meeting was held following a request for a field trip to look at bryophytes. Mark Pool, the British Bryological Society recorder for Devon led the day. The area chosen was Helman Tor (20/0661), an elevated granite tor on the edge of the St Austell granite near Bodmin, and Breney Common (20/0561), a Cornwall Wildlife Trust-owned reserve of heath, bog, pools and scrub in the small valley below. This area was historically used for tin streaming and gravel extraction, and the semi-natural habitats formed since the cessation of extraction have become rich in bryophytes, several of which were pointed out. The area is also rich in ferns and species of note included small patches of *Hymenophyllum tunbrigense* in crevices of the granite tor, with *Dryopteris dilatata* and a few plants of *D. aemula* around the base of the boulders.

In the wetter areas of Breney Common *Osmunda regalis* was especially abundant with some plants several feet tall and wide. *Pilularia globulifera* was found in a small pond and along a small stream, and *Dryopteris carthusiana* was seen in the more open areas. One of the ponds on the reserve had *Equisetum fluviatile*, *E. palustre* and *E.* x *litorale*, with *E. arvense* on drier parts of the bank. *Asplenium obovatum* subsp. *lanceolatum* is found in some of the old granite Cornish hedges in the Helman Tor area and although I.J. Bennallick saw the species in a hedge nearby in 2001, no plants could be seen in 2002.

Kynance, Carn Caerthillian and near Lizard Point – 22 & 25 May

The two meetings held at Kynance (10/6813), Carn Caerthillian (10/6912) and near Lizard Point (10/7011) were the final two of the four meetings planned during the indoor meeting in February. These meetings were timed so as to catch in flower some of the rare *Trifolium* species (clovers) that occur on the Lizard. Ferns seen included *Asplenium marinum* and *Isoetes histrix*, the latter still looking very fresh at Holestrow. It had been remarked by several local botanists that spring had been late by about two weeks and that the desiccating winds that usually dry the low, flat Lizard peninsula had yet to take effect. Interestingly, fresh green *I. histrix* plants were still apparent on the coast path near the National Trust car park at Kynance during a visit with the Somerset Rare Plant Group in June in 2001.

Penlee Point and Polhawn Cove – 22 June

No ferns of note were seen on the visits to Penlee Point (20/4448) or Polhawn Cove (20/4249) at the extreme south-eastern part of Cornwall.

Bude Canal and Maer Lake – 9 July

No ferns of note were seen in the area around the Bude Canal, from Hele Bridge (21/2103) to Bude Marshes (21/2006) and Maer Lake (21/2007) in the north-eastern part of Cornwall. However, *Asplenium adiantum-nigrum*, *A. ruta-muraria*, *A. trichomanes* subsp. *quadrivalens* and *Polystichum setiferum* were new to the tetrad (21/20 C) and *Azolla filiculoides* proved to be abundant in a small pond on the Bude Marshes.

Castick Wood and Rocky Wood – 13 July

The aim of this meeting was to explore the eastern edge of Bodmin Moor, near North Hill (20/2776), specifically targeting habitat thought suitable for *Phegopteris connectilis* and *Gymnocarpium dryopteris*. Both of these ferns had been recorded on Bodmin Moor in the 1930s but had not been seen since. The woodlands looked at (with kind permission from the owners, the Latham family of Trebartha) were Castick Wood (20/2577) along the Withey Brook and Rocky Wood (20/2675). These were chosen in preference to other parts of a rather over-grazed Bodmin Moor for their cool, north-easterly aspect, high humidity and the presence of partly undisturbed woodland. Unfortunately the search was unsuccessful, but similar habitats on Bodmin Moor may well prove more fruitful. However, the day was not without interest, as large populations of Hymenophyllum tunbrigense were seen on the sides of granite boulders, around the boles of trees and in damp crevices in both woodlands, the plants at Rocky Wood being especially luxuriant. Oreopteris limbosperma and Osmunda regalis were also recorded.

Rospannel Farm and Porthgwarra – 10 August

A visit was made to Rospannel Farm (10/3926) to see some wet valley moorland, typical of the southern part of West Penwith in the extreme west of Cornwall, and to record the species around a wildlife pond created in the 1990s by the farmer, Bernard Hocking. *Asplenium obovatum* subsp. *lanceolatum* in an overgrown granite Cornish hedge was pointed out to the group whilst walking to the valley, and several large plants of *Osmunda regalis* were seen on the moor itself. *Azolla filiculoides* was recorded from a small part of the wildlife pond and it was mentioned that this could become a problem in the future.

The afternoon was spent at Porthgwarra, an area very close to Gwennap Head, the most south-westerly point in Cornwall. *Asplenium obovatum* subsp. *lanceolatum* was seen on a natural rocky outcrop along the coast at Carn Scathe (10/3721), and *A. marinum* was found in several crevices of Hella Point (10/3721).

For arranging access to sites visited so far this year, thanks are due to Tim Dingle and Graham Sutton for Bude and Maer Lake, Brian Stringer and the Latham family for the North Hill woodlands, Joe Costley of the National Trust for Cotehele, Bernard Hocking for Rospannel Farm and Tilhill Forestry for Greystone Wood. Special thanks must go to Rose Murphy, whose dedication in recording the Cornish flora is an inspiration to the other members of the Botanical Cornwall Group.

Full details of the field meetings will appear on the Botanical Cornwall Group Website – www.floracam.co.uk/bcg and will be published in issue 12 of *Botanical Cornwall* (to be published early in 2003). During each field meeting full species lists are made, and these, as well as copies of meetings reports, are available from Ian Bennallick, the Botanical Cornwall Group co-ordinator. All records made on meetings are held on ERICA, the local database in Cornwall for botanical records, and these records will also be held at the Environmental Records Centre for Cornwall and the Isles of Scilly, which is based at Allet near Truro.

SCOTLAND

Mugdock Country Park, Glasgow – 13 April

Frank McGavigan

Deprived of all things ferny over the wettest winter on record, five die-hard enthusiasts met on a beautifully sunny morning at the Mugdock Country Park (26/547780), just north of Glasgow, for the first Scottish gathering of the year. The park contains the ruin of what must have been a fine castellated stone mansion, an artificial loch, several acres of untidy woodland and many neglected stone walls or dykes – a perfect habitat for spotting ferns. We were not disappointed.

Almost immediately we came across *Asplenium scolopendrium*, *A. trichomanes* subsp. *quadrivalens* and *Dryopteris dilatata* in what appeared to be an unmortared wall. There must have been some old lime mortar to satisfy the two aspleniums, although the calcifuge *D. dilatata*, which is abundant elsewhere on the estate, seemed unaffected.

Passing scattered clumps of *Blechnum spicant* and dormant plants of *Dryopteris affinis* subsp. *borreri*, *D. filix-mas* and the ubiquitous *Pteridium aquilinum*, we came out of the woodland to study healthy colonies of *Asplenium trichomanes* subsp. *quadrivalens* and *A. ruta-muraria* on a south-facing mortared wall; the latter species was more extensive, but both occupied quite distinct and separate parts of the wall. We pondered, without coming to any definitive conclusions, on the relative requirements of heat, moisture and lime of these two species and on how long it takes for a colony to become established. The unmortared 'dry stane dyke' on the other side of the road had no ferns.

The massive sycamores lining the drive up to the ruined castle were festooned with epiphytic polypodies. Were they *Polypodium vulgare* or *P. interjectum*? Difficult to tell, even for Heather McHaffie, so samples were taken for microscopic examination. [All confirmed as *P. interjectum*. H. McH.] But high up in the trees they are safe from the 'improving' hand of man, unlike ferns on the wall surrounding the old formal garden where the *Asplenium trichomanes* subsp. *quadrivalens* had been ripped out in their dozens to prepare the way for elaborate repointing and restoration. The plants of *A. trichomanes* that remained were curious in that the pinnae seemed more elongated in relation to their width than is normal, and the pinnules were distinctly overlapping.

Alastair Wardlaw regaled us, perhaps because his arm was in a sling, with the tale of a young child who had an arm bitten off by a leopard in the zoo that used to surround the castle. The cages had been cut into the adjacent cliff, but all that remained of interest to us were a few polypodies – definitely *P. vulgare* this time. We walked round the loch and spotted a solitary plant of *Asplenium adiantum-nigrum* in a cliff-face, surviving on some calcareous seepage in an otherwise acidic terrain. We caught sight of a few roe deer, quite close and clearly unafraid of either humans or the ghosts of leopards.

After lunch and a quick visit to the Park's garden centre, where we were surprised to find on sale at exorbitant prices some of the fern species we had just seen, we drove to two nearby roadside sites. At the first (26/563787) was a healthy colony of vigorous and robust *Asplenium ceterach*; this is quite a rare fern this far north and it was quite a surprise to see it flourishing so well. Nearer the city at a busy road junction (26/556739) several plants of *Cystopteris fragilis* were pushing out from between the stone blocks of a railway bridge, sharing the wall with an extensive covering of *Conocephalum conicum*, the scented liverwort.

The afternoon was spent at Alastair Wardlaw's home. His garden is a pteridological paradise, with too many species, both native and foreign, to enumerate here. Fortified by a magnificent afternoon tea prepared by Alastair's charming wife, Jackie, we held an informal workshop to discuss what key features of dicksonias could be scientifically

described to distinguish with certainty between those commonly grown in Britain, in particular *D. antarctica* and *D. fibrosa*. Descriptions in current guides are laughably woolly and vague. With sample fronds cut from Alastair's collection we compared colour (but how do you describe colour?), feel (but hardness is impossible to measure), the angle that the pinnae meet the stipe (this looks promising), the relative width and length of the pinnae and pinnules (needs a controlled study), and other features. Side by side the two ferns are clearly distinct, but the layman would struggle to determine which is which from published keys and descriptions.

With the warmth disappearing from the sun we brought a very satisfying day to an end, carrying off to our gardens the usual exchanged coveted ferns.

The Sesquicentenary of *Athyrium distentifolium* var. *flexile* in Glen Prosen, Angus – 27 July

Heather McHaffie

A significant anniversary occurred in July this year that unaccountably failed to make the headlines. I can now reveal that it was 150 years since *Athyrium distentifolium* var. *flexile* was first found at the type locality in Glen Prosen. We could not visit on the exact date, Wednesday 24th July, but on the following Saturday eight of us headed up Glen Prosen (37/237736). There were three BPS members, three people from Kindrogan Field Centre and two local botanists. The sun failed to shine on us but at least it didn't rain.

We arrived at a small group of rocks near the head of the valley and satisfied ourselves that the fern had not been eaten by the local sheep, deer or mountain hares. The large clumps of *A. distentifolium* in the middle of the rocks had not been grazed yet. After the wet summer the ferns were mostly better than I have ever seen them. One other clump of *A. distentifolium* var. *flexile* further down the hill was barely visible and I only found it because I knew the location so well. It looked as though the fronds had been frosted and failed to recover. However, Frank Katzer found a better new clump further up the hillside, which I had never found despite repeated searching.

We had lunch and then the cake was produced. The Dundee cake (City of Discovery) was made by Frank McGavigan and had 1852 – 2002 in green icing with a tasteful representation of a *flexile* frond across the middle. We sang Happy Birthday (although I am not sure that everyone joined in), cut the cake, ate the lot and started to wend our way back down via several interesting-looking outcrops. We saw *Dryopteris oreades* on inaccessible ledges, which a few intrepid people visited. A block scree, with boulders at least ten metres across had a family of foxes living among the *D. expansa*. There was abundant *Gymnocarpium dryopteris* and occasional *Cystopteris fragilis* among the rocks. There were *Equisetum sylvaticum*, *E. palustre*, *E. fluviatile* and *E. arvense*. A population of *E. pratense* was barely visible among tall *Calluna* that had grown since I previously visited. Presumably once the heather is burnt the horsetail will be more vigorous again. In a calcareous area we saw some 'bonsai' *Polystichum lonchitis* only a few centimetres tall that had been heavily grazed. There was a little *Lycopodium clavatum* also, with *Huperzia selago* and *Selaginella selaginoides*. Some people saw *Botrychium lunaria* (one plant) on the way up but we couldn't find it again. *Oreopteris limbosperma* grew by the streams and *Blechnum spicant* was very common. Frank McGavigan and Frank Katzer boosted the total by spotting *Osmunda regalis*, *Asplenium trichomanes* and *A. ceterach* in gardens at Glamis, but perhaps that's cheating.

Visit to *Cystopteris dickieana*, Aberdeen – 3 August

Frank McGavigan

Having checked the tides (but unfortunately not the weather forecast) Heather McHaffie had organised a trip to view *Cystopteris dickieana* in its type locality in a sea cave just south of Aberdeen.

But firstly, even further south, a few of us were guided by Les Tucker, who seems to know every site of botanical interest around the city of Dundee, to a location just north of Glendoick, near Perth, where *Asplenium ceterach* grows naturally in rock (37/202241). Even in Scotland, where it is uncommon, we are all used to seeing *A. ceterach* growing in the lime mortar of old walls (and incidentally there is a huge colony in the village of Glamis in Angus) but none of us had seen the rustyback in its natural habitat before, except perhaps on holiday on the Mediterranean coast. There was no doubt that this was a natural site, rather than man-made by some errant gardener. The nearest habitation is some distance away and the site is difficult to access, up a steep and very slippery slope, made more treacherous by this year's atrocious summer, which showed no signs of improving during our visit. There were several clumps, about a dozen in all, scattered around the outcrop of volcanic rock along with plants of *A. adiantum-nigrum*, also often seen on walls. In addition, our fern sleuth, Frank Katzer, spotted *Polystichum aculeatum* after the rest of us had walked over it.

Then on to Aberdeen (Frank is as sharp at spotting speed cameras as he is at finding ferns), where we met up with Anne-Marie and Chris Smout and Jackie and Alastair Wardlaw. After clambering over the wet and precarious shore boulders at Cove (by this time the rain had got even heavier) we were rewarded with the sight of the enormous sea cave itself, populated by three fern species – *Asplenium marinum* (in great profusion and of robust size), *Athyrium filix-femina* (strange to find lady fern there), and of course *Cystopteris dickieana*, also in healthy profusion although most plants are on an inaccessible ledge.

Heather had, in her usual efficient manner, provided us all with copies of Peter Marren's excellent article on the history of Dickie's fern (*Pteridologist* 1(1): 27-32. 1984). From this we learnt that the fern was first named and described in writing in 1848, although Professor Chris Smout makes no mention of this momentous event in his otherwise excellent *A Century of the Scottish People 1830-1950* (1986). Actually Dickie acknowledged that he himself did not originally find the fern but was led to it as a student by his teacher, Professor William Knight, several years before. However, he does seem to have been the first to have recognised its uniqueness.

Unique it certainly is, in that it is found in very few other places in Britain besides this sea cave and a few sites nearby, but is it actually a separate species or merely a variant of *C. fragilis*? Anyone who has grown the two (and they're easy to cultivate, unlike *Asplenium marinum*) can clearly see a difference, but what about the science? Much research work still needs to be done. But, being a Scotsman and no scientist, I of course have no doubt at all that *Cystopteris dickieana* is a separate, unique species, found only in this one little corner of Scotland. Well, we don't have much else to shout about.

Before retreating to the shelter of our cars a few of us went in search of another *C. dickieana* site slightly to the north of Cove. Wading knee-high through soaking vegetation and slithering down muddy slopes, Les Tucker, quickly followed by Frank Katzer, soon found, near a magnificent waterfall, a very wet overhang that looked like the remains of a collapsed sea cave. *C. dickieana* grows here alongside *C. fragilis*, with some plants looking suspiciously intermediate. Clearly a research project in the making. Also at this site were several *Asplenium scolopendrium*, which we later discovered on our way home on sale at a well known garden centre at a mere £7.95 per plant along with *Blechnum spicant* at £5.95.

Despite rip-off garden centre prices, this was a good day in perfect fern-growing, if not fern-hunting, weather. The following day summer began, the sun shone and temperatures soared. I must have a word with Heather about timing.

Isle of Bute, Argyll – 7 September **Frank McGavigan**

The beginning of September saw us off to Bute again, on what has become an annual outing for the Scottish Fern Group. This time it was a very relaxed visit with no frenetic hunting to see how many fern species we could tick off in the day. It is such a beautiful, peaceful place that any visitor is quickly overcome with the desire to take it easy.

First stop was the cave at Dunagoil Bay (26/0853) in the south of the island where James Merryweather had taken us two years previously to see gametophytes of *Trichomanes speciosum*, the Killarney fern. Of course there was no sign of the sporophyte, one of the most beautiful of British ferns, because this is one of the sites where the gametophytes survive in the absence of the sporophyte and have perhaps done so for hundreds (thousands?) of years. Heather McHaffie had thoughtfully provided us all with copies of Rumsey, Jermy and Sheffield's article on this phenomenon (*Watsonia* 22: 1-19. 1998). From this we learn that the "*gametophytic generation, the sexual or gamete-bearing phase of the life-cycle, is not only perennial but produces specialised structures for its vegetative propagation (gemmae), allowing the potential development of extensive stands of this usually overlooked generation.*"

Rumsey *et al.* list all the British sites where this occurs, although the Bute cave is not included as it is a more recent discovery. They also point out "*that gametophyte populations extend into continental Europe far beyond the known sporophytic range of the species*", which is mainly the warm Atlantic seaboard including places such as the Azores. So the question is, how did these independent gametophyte populations become established and when? Are these gametophyte populations the remnants of full sporophyte populations that have been killed off due to conditions becoming too cold or too dry? The Bute cave is relatively dry, whereas everyone who has tried to grow *T. speciosum* at home knows that it needs to be grown in a glass case in shade with regular misting to maintain constant high humidity. (I know; I've failed.)

Having noted plants of *Asplenium marinum* and *A. adiantum-nigrum* on the nearby cliffs, we moved on to Ascog Fernery (26/1063), where the Killarney fern that RBGE had donated the previous year was thriving. Only after Wallace and Kath Fyfe bought the house did they discover that there was a ruined Victorian fernery in the garden. They set about restoring it and restocked with help from the Royal Botanic Garden Edinburgh, although they did manage to rescue a *Todea barbara*, which miraculously had survived the years of neglect and is in fact reckoned to be over 1,000 years old. (See *Pteridologist* 3(3): 22-23 (1998) for a fuller description of the restoration.)

Apart from *Dicksonia antarctica* and *D. fibrosa*, Ascog's tree-fern collection contains several *Cyathea*, the most noticeable being *C. medullaris* with wonderfully dark, almost black stipes. These are offset with various *Davallia* and *Pteris*, *Woodwardia radicans*, which thrives both inside and outside the fernery, some unusual maidenhair ferns such as *Adiantum reniforme*, exotic *Blechnum* species, *Culcita macrocarpa*, and many others. Actually it is rather pointless listing all the ferns (even if I could remember them) as it is their presence *en masse* that is the real attraction.

One of the endearing things about Ascog is the complete lack of plant elitism; the rarities sit happily beside the commonplace such as *Asplenium scolopendrium*. But the most remarkable fact of all is that Wallace spends up to an hour and a half every day watering the ferns (and he says he is not particularly a fern-lover!) I suspect he secretly prefers his dry gravel garden, which is full of grasses, sedums and euphorbias and worth a visit in itself; no watering needed there.

Talking of water, as this was a BPS Scottish outing, you may ask if we avoided the rain. Of course not — we got soaked. But then the sun came out again and by the time we were ferrying back across the Firth of Clyde we had dried out sufficiently to reflect in comfort on what an enjoyable day we had experienced.

HORTICULTURAL SHOWS

BBC GARDENERS' WORLD LIVE! – 19-23 June

A.R. Busby

As last year, the Society stand was located on an end-of-row corner, giving us the advantage of having two frontages to display our ferns. However, this year, due to narrower staging, we could only use eighteen ferns. Once again we were let down by those responsible for erecting the staging. Having reported its absence, we waited for over an hour without any response from the organisers. Fortunately, my friends on the NCCPG stand came to my rescue with spare tables and hessian cloths, so that by late afternoon I was able to start staging the ferns.

Preparing and selecting ferns for public display is a bit like being a football team manager. You have a squad of 'players' from whom you will select only those fit enough to play. There are those in reserve on the team bench in case some star fails to come up to scratch and sadly, there are those who are unfit to play. This year, I was able to field my foreign players: *Adiantum aleuticum* 'Subpumilum', *A. venustum*, *Athyrium niponicum* 'Pictum', *A. otophorum*, *Blechnum penna-marina*, *Dryopteris cycadina*, *Osmunda lancea* and *Polystichum proliferum*, while the local talent was *Asplenium scolopendrium* and its varieties 'Crispum', 'Laceratum Kaye' and 'Marginatum', *Athyrium filix-femina* 'Caput Medusae' (sporeling), *Dryopteris affinis* 'Pinderi crispa', *Osmunda regalis* and *Polystichum setiferum* 'Divisilobum'.

The aim of having the Society represented at shows is firstly to encourage membership, secondly to promote the cultivation of ferns, and thirdly, to educate the gardening public that not all ferns are bracken. The objective is to show the visitors as wide a range as possible of form and colour in hardy ferns.

Once again I had to rely very heavily on those members who were prepared to give some of their valuable time to man the stand on those days that I was unable to be there. My sincere thanks to Bryan and Gill Smith, Jeff Whysall, Ray and Brenda Smith and my partner Elizabeth Graham. The dates of next year's show are the 11th to 15th June and we are always pleased to see members visiting our stand. If they can spare a couple of hours to work with us, so much the better. You need not be an expert to make a valuable contribution on the Society's behalf.

SOUTHPORT FLOWER SHOW – 22-24 August

A.R. Busby

This year's show was blessed with dry weather and attendances were good. Unfortunately, having lost the contributions of a number of long-standing fern exhibitors, the number of entries was very poor; I cannot recall a year when the number of entries was so low. The entire range of fern classes was supported by only three exhibitors. The standard of presentation was poor due to lack of attention to detail. Consequently, the task of judging was made too easy.

The judge was A.R. Busby. The prize-winners are listed below.

Class 6 Individual Championship: Four hardy, two greenhouse and two foreign hardy ferns: 1st Mr B. Russ, 2nd Mr I. Rawson (2 entries)

Class 7 Three Hardy British Ferns (three distinct species not varieties): (1 entry disqualified)

Class 8 One Foreign Fern Hardy in Great Britain: 2nd Mr I. Rawson (2 entries)

Class 9 Three *Polypodium* (distinct varieties): (no entries)

Class 10 Three *Polystichum* (distinct varieties): 2nd Mr I. Rawson (1 entry)

Class 11 Three *Athyrium* (distinct varieties): 2nd Mr I. Rawson (1 entry)
Class 12 Three *Asplenium* (excluding *A. scolopendrium*): (no entries)
Class 13 One British Fern (any kind or variety): 1st Mr I. Rawson (1 entry)
Class 14 One Greenhouse Fern: 1st Mrs O. Fairclough (1 entry)
Class 15 Three *Asplenium scolopendrium* (3 distinct varieties): (no entries)

The Challenge Cup awarded for the most points gained over all the classes was won by Mr I. Rawson.

One of many interesting features of this year's show was the report of a Birkdale couple who had discovered an original poster advertising the 1930 Southport Flower Show. This was found in a car boot sale and advertises the show as the 'largest summer flower show in the world'. The attractions advertised are 'horse leaping' and 'invitation sheep dog trials'. View it yourself by visiting the show's own website, details of which are given below. It is interesting to compare our Society's show report in the *British Fern Gazette* for 1930. A.J. MacSelf reports on the various fern classes and includes his disappointment that there were only three exhibitors in the class for a group of ferns occupying 100 square feet. The previous year, this class boasted seven entries! Would that I could be given the chance to judge such a class.

I would like to express my thanks to the following members who took the trouble to make long journeys to see the show and spend a few minutes chatting to us on the stand: Mr and Mrs P. Hindle, Mr B. Russ, Mr P. Lamb and Mr R. Cole. My special thanks to Ann Gill, Ray and Brenda Smith, and my partner, Elizabeth Graham, for their valued support.

The dates for next year's show are the 21st to 23rd August and we look forward to seeing you there. We are always short of help on the stand, so if any members have just a few hours to spare I would be very pleased to accept offers of help. If any members are interested in showing ferns at the Southport Show, I would be pleased to advise them on the pleasures and pitfalls of competitive showing. For a schedule for the show please apply to Southport Show Ltd, Victoria Park, Southport, PR8 2BZ.

(www.southportflowershow.co.uk)

THE AMERICAN FERN SOCIETY

The AFS invites all readers of this *Bulletin* to join the American Fern Society. You are welcome to visit the AFS website: amerfernsoc.org. Regular members receive *Fiddlehead Forum* five times a year, a newsletter published for those who are interested in growing ferns, hunting for them and expanding their knowledge of ferns. Journal members also receive the scientific quarterly *American Fern Journal*. Membership costs $19 and $32 per annum respectively for members residing outside USA, Canada or Mexico, including postage for airmail-assisted delivery. For particulars please write to Dr George Yatskievych, Missouri Botanical Garden, P.O. Box 299, St Louis, Missouri 63166-0299, USA (george.yatskievych *a* mobot.org). Prospective members residing in Great Britain should write to Mr M.S. Porter, 5 West Avenue, Wigton, Cumbria CA7 9LG (Membership@eBPS.org.uk).

AFS SUBSCRIPTION PAYMENTS: Our societies have an exchange arrangement whereby members of the BPS can pay their AFS subscription through the BPS Membership Secretary and *vice versa*. Contact your Membership Secretary for details.

SECRETARIAL NOTES

Please note: *names and contact details of all officers can be found on the inside of the front cover of this* Bulletin.

ANNUAL GENERAL MEETING 2003 – The 100th AGM will take place on Saturday 22nd March 2003 in the Mineralogy Seminar Room, The Natural History Museum, London at 2.00 p.m.

COMMITTEE VACANCIES – In accordance with paragraph 3, section 3 of the Society's Constitution, two vacancies will occur due to the retirement of two of the longest serving Committee members. In addition, there is one unfilled vacancy. Nominations are invited from Society members to fill these vacancies at the Annual General Meeting in 2003. The names of the nominees, proposers and seconders, together with a letter from the nominee indicating his/her willingness to serve, should reach the General Secretary before the AGM. **Members with a potential interest in serving as an elected Committee member** and who wish to know more of the duties and responsibilities are invited to contact the Secretary.

SUBSCRIPTIONS 2003 – Members are reminded that subscriptions were due on 1st January 2003 and should be paid to the Membership Secretary. Cheques should be made payable to 'The British Pteridological Society'. Current rates are given inside the front cover of this issue. Payment can be made by **Credit Card** – see renewal form. **Standing Order** forms are printed on the reverse of renewal forms and are also available from the Membership Secretary and the BPS web site (www.eBPS.org.uk). Standing Orders may be paid on 1st January or 1st February. In either case, membership is deemed to be from 1st January to 31st December.

'Senior' Membership Subscription Rate – The Committee considered the suggestion of a Senior Membership subscription rate. However, this is not a feasible option at present as too many members would qualify and the Society's funds would suffer to an unacceptable extent. Currently 90% of subscriptions are already assigned to on-going commitments.

PUBLICATIONS BY AIRMAIL – Our journals can be sent by airmail to overseas members, provided that they advise the Membership Secretary and pay an additional subscription to cover airmail postage. See inside front cover for rates.

CODES OF SAFETY, CONDUCT AND DECLARATION FORM – All members attending Society field meetings should be aware of the Society's *Safety Code* (see 2000 *Bulletin* 5(5): 275), as well as the *Code of Conduct for the Conservation and Enjoyment of Wild Plants* (see 1999 *Bulletin* 5(4): 199), and will be required to sign a Declaration form. Copies of these documents can be obtained from the Meetings Secretary.

GREENFIELD FUND – This fund, set up as a memorial to one of our Society's great fern growers, Percy Greenfield, is used to finance approved research projects, helping with the cost of necessary equipment, books and travel expenses. Percy Greenfield's interest leaned very much towards the non-scientific side of our activities and it is felt that he would have wanted this taken into consideration when decisions are made. Workers eligible for university or college grants and similar support are not therefore eligible for help from the fund. Applications will normally be dealt with once a year and should be submitted by 1st December. Anyone wishing to avail themselves of this fund should contact the Hon. General Secretary for further information.

CENTENARY FUND – This fund is used to promote the study of all aspects of pteridophytes – horticultural, scientific and educational, whether by amateurs, students or professional pteridologists. As such its scope is much broader and more flexible than the Greenfield Fund. Applications will normally be dealt with once a year and should be submitted by 1st December. Anyone wishing to avail themselves of this fund should contact the Hon. General Secretary for further information.

SPECIAL INTEREST GROUPS – There are three Special Interest Groups. For further information please send a stamped addressed envelope to the organisers:

Tree-ferns: Prof. A.C. Wardlaw, 92 Drymen Road, Bearsden, Glasgow G61 2SY.
Foreign Hardy Ferns: A.R. (Matt) Busby, 16 Kirby Corner Road, Canley, Coventry CV4 8GD.
Filmy Ferns: S.J. Munyard, 234 Harold Road, Hastings, East Sussex TN35 5NG.

Alternatively the organisers may be contacted by e-mail: Tree-Ferns@eBPS.org.uk, ForeignHardyFerns@eBPS.org.uk, FilmyFerns@eBPS.org.uk.

Special Interest Groups Reviewed – Early in 2002 the Committee reviewed the Special Interest Groups and noted that when they were first set up around 1992 it was expected that each group convenor would collate and distribute an annual newsletter to members of the group. However, all convenors found it difficult to elicit articles and news items from their members and effectively had to write the newsletters themselves, which put a considerable burden on them. The Committee felt that the groups should continue, but that their activities might take alternative forms to a newsletter. Suggestions included a periodic meeting of the Special Interest Groups, possibly a mini-symposium, rotating the interest of the meeting on a two to three year cycle. The first of these meetings, on Tree-Ferns, is to be held in London on 8th November 2003. Also, lists of ferns grown by members of each group might be published, with their permission, in *Pteridologist*. It was also recognised that articles appearing in the newsletters were of wider interest than the Special Interest Groups and could be equally published in *Pteridologist*, which after all, is particularly concerned with horticultural and non-scientific aspects of pteridology. With these alternative activities there would be no expectation of an annual newsletter, but the idea of Special Interest Groups would be preserved and would serve to extend the Society's contribution to its educational objectives.

MEMBERS INFORMATION SERVICE – Members often require information and advice on many aspects of pteridophytes but are reluctant to ask or simply do not know where to obtain help. Queries from members on any aspects of the biology, identification or cultivation of ferns or fern allies should be sent, with three first class stamps, to the Horticultural Information Officer.

READING CIRCLE – The Society operates a reading circle for the *American Fern Journal*, a quarterly publication containing much information for those seriously interested in ferns. The *Fiddlehead Forum*, which publishes many 'ferny' items of interest to the amateur grower, accompanies it. To receive these journals contact the Horticultural Information Officer.

BACK NUMBERS OF JOURNALS – Our back numbers are a valuable source of information pertaining to most aspects of ferns. A mixed pack of six of our journals is available for just £5 post-free to whet your appetite; other back numbers of the Society's journal are available to members at reasonable prices. A full list is available from the Back Numbers Organiser.

FOREIGN FERN SOCIETY JOURNALS HELD BY THE SOCIETY – The Society exchanges journals with many other fern societies in the world. We have a collection of journals/newsletters from societies in the United States (2), Australia (3), New Zealand, India and the Netherlands. If members would like to browse these, they are welcome to get in touch with the Back Numbers Organiser for a list of our holdings. The journals can then be borrowed for just the cost of postage both ways.

E-MAIL ADDRESSES – Members who would like their e-mail addresses published in future membership address lists and who (1) have a stable e-mail address that is unlikely to change in the immediate future, and (2) keep up-to-date with their e-mail messages, are invited to send their address BY E-MAIL to the Membership Secretary at: Membership@eBPS.org.uk. *Please subsequently notify the Membership Secretary if your e-mail address changes.*

WORLD-WIDE WEB SITE – The URL (address) of the BPS Web site hosted by The Natural History Museum is 'http://www.eBPS.org.uk'. See also article by our webmaster entitled 'eBPS' in 2000 *Bulletin* 5(5): 276.

E-MAIL LIST & PRIVATE DOCUMENT STORE – Members are reminded that there is an e-mail group or 'list' for BPS members only. Its purpose is for discussion of Society matters of common interest and for communication of updated information; it is not intended as a list to discuss the botany or growing of ferns, for which another list such as *FERNS* would be more appropriate. See the BPS Web-site under 'Links'. Send a blank e-mail to: BPS-subscribe@yahoogroups.com to subscribe. There is also a document store on this site, which will be used for documents intended only for members and therefore not appropriate for posting on the BPS web-site, e.g. Booksales list and Merchandise details. So far, few members have subscribed to this service. Contact the BPS Webmaster for further information.

BPS VIDEO 'BRITISH FERNS' – This twenty-five minute video shows most of the native British ferns growing in their natural habitats. It demonstrates the wide variety of size and form to be found in British ferns and the broad range of habitats they colonise. Attention is drawn to key identification characters for each species.

Schering Agriculture and the National Museum of Wales funded the video. It is available for loan to members and interested organisations for £3, to cover handling costs (UK only). For further details write to the General Secretary enclosing a stamped addressed envelope.

A copy of the above video is still missing despite last year's appeal. If any member has inadvertently forgotten to return the video after borrowing it, please would they kindly return it to the General Secretary as soon as possible. No repercussions!

After receiving several requests to purchase the fern video, the Committee considered issuing it as a CD ROM. On review, the film quality of the video was considered too poor by today's standards to do so. However, it **can be made available as a VHS tape** at cost price. Interested members should enquire of the Secretary for further details.

BPS FIRST MINUTE BOOK - This historical document containing the Committee Minutes from the inception of the Society in 1891 to 1983 is now available in full colour on a CD ROM at £10 per copy, including postage. Place your order through Booksales.

BRITISH WILDLIFE – Concessionary individual subscriptions to *British Wildlife* magazine are available to BPS members.

ROYAL HORTICULTURAL SOCIETY - Our Society is affiliated to the RHS, enabling a limited number of members to enjoy certain privileges in connection with RHS Shows, competitions and services.

PAYMENT OF EXPENSES - Documents setting out the *Rules of Conduct for the Treasurer* (BPS/T/1), the *Rules for Seeking Re-imbursement of Personal Travelling and Administrative Expenses* by officers and members acting on behalf of the Society (BPS/T/2), and the *Authorities for Payment* (BPS/T/3) can be obtained from the Honorary Treasurer on request.

COPYRIGHT - All contributors to the BPS journals and webpage are required to sign an agreement assigning ownership of copyright of the article, photograph etc. to the BPS. This has the aim of safeguarding the contributors' work from unlawful copying and use. It does not stop contributors from using their own work elsewhere provided that they acknowledge the original source of publication.

MERCHANDISE - Do you have a BPS sweatshirt and/or tee-shirt, or one of the polo shirts? These are all dark green with a small BPS logo in yellow. Ties, metal badges, bookmarks and car stickers sporting our logo are also available. Other items for sale: greetings cards, postcards and notelets. Can't find your order form? Contact the Merchandise Organisers for details. They would also welcome suggestions for new stock.

THE FUTURE OF BOOKSALES – Internet sales have pushed the second-hand prices of pteridophyte books to exorbitant levels such that in the past two years the cost of second-hand books has doubled and even trebled in some cases. Consequently the Booksales Manager is struggling to buy books at reasonable prices. The Committee has agreed therefore that he should continue to obtain second-hand books when they become available at reasonable prices, but in future Booksales will concentrate on new texts, obtaining publishers' deals as far as possible. Each year, a list of new books and Society publications available through Booksales and a full list of books available, including second-hand ones, will be available to members on request from the Booksales Manager, who is also willing to supply a list of email addresses of second-hand book retailers. Back copies of available BPS journals will also be included on the list. It is also hoped to have the list available on the BPS members' web document store, see earlier item.

WANTED; HELP WITH PUBLICATIONS We still *urgently* need Technical Desktop Editors to facilitate the flow of electronic information through the Societys' newsletters, journals and the web site, e.g. to convert newsletter format to web format, help with journal layout and production etc. Assistance is also needed with the preparation of our ocasional Specail Publications and leaflets. This all involves a wide range of scanning, editing, design and publishing skills. Or do you have an aye for detail or are familiar with MS WORD? IF So, we would like you're help.If you think that you could help the Society in any of these ways (if you've found the numerous mistakes in this paragraph you definatelycan help), please contact the President in his capacity as Acting Chairman of the Publications Subcommittee.

ASSISTANCE REQUIRED ON BPS STANDS AT FLOWER SHOWS – The Society needs volunteers to assist at the BBC Gardeners' World Live! and Southport Flower Show. You do not need to be an expert on ferns or fern growing, just prepared to spend a few hours or a day on the stand. Expenses are available and should be negotiated with A.R. Busby in the first instance. Further information is available from the Horticultural Information Officer.

Do you have expertise in the design of display stands or similar skills and would like to help the Society? The Committee has agreed the purchase of display stands for use at Flower Shows and other events and is seeking help with their design. If you have that expertise and are willing to help, please contact A.R. Busby, the Horticultural Information Officer.

NATIONAL COLLECTIONS OF FERNS – Traditionally a large proportion of the BPS membership has been strongly interested in the cultivation of ferns and the creation of fern gardens. Alastair Wardlaw, our President, is keen to see this enthusiasm being promoted through recognised NCCPG (National Council for the Conservation of Plants and Gardens) National Collections of ferns and their allies. At present there are 650 National Collections, of which only about a dozen are devoted to pteridophytes. These consist of specialist collections of *Adiantum*, *Asplenium*, *Athyrium*, *Cystopteris*, Dicksoniaceae, *Dryopteris*, *Equisetum*, *Osmunda*, *Polypodium*, *Polystichum*, *Selaginella* and *Woodwardia*. In addition, there are two more general collections: 'Hardy Ferns' at Windsor Great Park and 'British Ferns' in Alastair's garden. Duplication of collections in different parts of the country and exchange of specimens is to be strongly encouraged both for convenience of visiting and to provide assured continuity of the species or variety. Many priceless cultivars from Victorian times were irretrievably lost because of lack of duplication in other gardens. Alastair would particularly like to be contacted by members of the Society who might be interested in establishing their own National Collection of British Ferns. His own collection contains 50 of the approx. 53 species of native British ferns and about 80 cultivars. Extensive information about the NCCPG and the rationale for National Collections can be found at www.nccpg.com or from NCCPG, The Stable Courtyard, Wisley Garden, Woking, Surrey GU23 6QP.

ANNUAL GENERAL MEETING 2002

MINUTES of the 99th Annual General Meeting of the British Pteridological Society held at Ness Botanic Gardens, Cheshire, on Saturday 16th March 2002 at 14.00 hours.

IN THE CHAIR: The President, Prof. A.C. Wardlaw.

PRESENT: Mr P.J. Acock, Mr A.R. Busby, Mr B.K Byrne, Mr R.J. Cooke, Mr J.P. Crowe, Mr S.E. Czeladzinski, Mr M.L. Grant, Mr G.K. Hoare, Miss J.M. Ide, Mr A.C. Jermy, Ms E. Knox-Thomas, Dr S.D. Martinelli, Dr J.W. Merryweather, Mr M. Morgan, Mr S.J. & Mrs K. Munyard, Miss R.J. Murphy, Mr A.H. Ogden, Miss A.M. Paul, Mrs B. Porter, Mr M.S. Porter, Mr P.H. Ripley, Mr H.C. Shepherd, Mr F.A. Strang, Mr R.W. Sykes, Dr J.D. Womack, Mr B. Wright.

Item 1 – APOLOGIES FOR ABSENCE: Mr R.G. Ackers, Mr J.A. Crabbe, Dr A.F. Dyer, Dr N.J. Hards, Mr A. Leonard, Mr A. Monaghan, Dr C.N. Page, Mr A.C. Pigott, Mr M.H. Rickard, Dr F.J. Rumsey, Mr B.D. & Mrs G. Smith, Mr B.R. & Mrs R. Stevenson.

Item 2 – APPROVAL OF MINUTES: The Minutes of the 98th Annual General Meeting held on Saturday 3rd March 2001, and published in the 2001 Bulletin (Vol. 5, no. 6) were approved unanimously and signed by the Chairman.

(Note: The Minutes published in the *Bulletin* and approved at this meeting were a slightly shortened version of the Minutes as recorded in the Minute Book.)

Item 3 – MATTERS ARISING: None.

Item 4 – REPORT OF THE HONORARY GENERAL SECRETARY (J.M.Ide):

Despite the still-continuing, well-publicised problems of the railways, which prevented some members of the Committee, particularly those travelling from the north, attending some meetings we always had more than a quorum and were able to continue reviewing and improving the Society's procedures and putting the activities of the Society on a sound footing.

SYMPOSIUM 2001: The Society's Symposium, *Fern Flora Worldwide - Threats and Responses*, held at Guildford University in July, was a huge success from every standpoint. Twenty-three countries were represented among the 74 delegates (this figure probably underestimating the number of delegates). The papers presented were of high quality, interesting, but some also disturbing. The Committee had already thanked R.G. Ackers, who bore much of the burden and worry of the organising administration, A.C. Jermy, who was responsible for the scientific programme of the meeting, A. Leonard, who was concerned with the registration of delegates and the handling of the finances and R.J. Cooke for the introduction to English Nature, which resulted in some funding from this organisation towards the mid-Symposium excursion to sites of conservation interest in Surrey. But I am sure that through this meeting, *the Society* would also wish to express its thanks to these people and to all who contributed to the organisation and hence the success of the Symposium. The finances were so finely tuned that the Society sustained a loss of only £78.40, a mere 0.36% of the total cost of £22,055. I think all would agree that R.G. Ackers and A. Leonard deserve to be congratulated. Unfortunately, the post-symposium excursion had to be cancelled owing to foot and mouth disease, which effectively closed the Lake District.

The editing of the proceedings is well underway and it is expected that they will be published later this year as a special edition of the *Fern Gazette* and will be dedicated to A.C. Jermy in celebration of his 70th birthday and of his work for pteridophyte conservation.

CHARITY STATUS: After making changes to the Constitution at the AGM in 2000, the Charity Commissioners advised, too late for the AGM in 2001, that they required an additional amendment and the addition of certain clauses to the Constitution before they could confer charity status. Unfortunately, the present Constitution only allows changes to be made at an AGM, so we have had to wait a further year before attaining our goal. Forestalling a similar situation in the future, the Committee is recommending to the membership that clause 10, which deals with constitutional change, be amended to allow changes to be made at an Extraordinary General Meeting as well as an Annual General Meeting. The amendments and additions that are being put to the meeting today have been approved by the Charity Commissioners and the impression we have been given is that the Society will be granted its Charity status once they have been made.

Once we achieve charity status every Committee member will become a trustee of the Charity with a number of responsibilities, some of which have caused some of the present Committee members some disquiet, fearing that their own funds and property might be subject to forfeiture under certain circumstances. This could only happen if, as Trustees, we were negligent in ensuring that the Society's finances were properly managed or were negligent with the safety of members at meetings. To ensure, as far as possible, that this did not happen, the guidelines for leaders of meetings was revised, a Safety Code prepared and distributed to all members via the *Bulletin*, and to protect the property of the trustees and the Society, a small working party was set up under the chairmanship of R.G. Ackers to investigate suitable insurance for the Society.

THE ARCHIVES: The lack of proper archives and of an archivist continued to exercise the Committee, who had continued to look for an Archivist for the Society. Paul and Eily Ruston, both with useful experience, kindly volunteered, but they had to withdraw their offer due to a number of logistical difficulties. A.R. 'Matt' Busby, who is familiar with the types of material that need to be archived and has a sound background in the history of the Society, has offered to be the Archivist for the immediate future. We thank the Rustons for their interest in the position and hope that they will be willing to help the Archivist in that area in which they have a particular interest, namely historical documents. Another major stumbling block is the lack of a suitable depository for the archives, with an appropriately controlled atmosphere and accessibility for anyone wishing to consult it.

SCANNING OF THE SOCIETY'S FIRST MINUTE BOOK: Continuing with the theme of the archives, B. Wright completed the scanning, in colour, of the Society's first Minute Book, which runs from the Society's inception in 1891 to 1983. This is the Society's most valuable document and CD ROM copies in Adobe Acrobat format, with page numbers cross-indexed with meeting dates, have been made for archival purposes and distributed amongst officers for safe keeping. Important events are being cross-indexed, and when this has been completed CD ROM copies will be available to members at £10 a copy. We record our thanks to B. Wright for an excellent job, which turned out to be not quite as straightforward as he had expected and involved him in *many* hours of work.

The safety of the Minute Book itself was of concern to the Committee, and A.R. Busby kindly purchased a metal box, which, although it would not prevent the Minute Book from burning, would protect it from smoke and water damage. The Committee thanks him for his generosity.

COMMITTEE APPOINTMENTS: As the Society's range of activities increases, it is inevitable that we have a slow trickle of officers, managers and organisers wishing to be relieved of their duties after a number of years' service. Following Linda and Mick Craddock's retirement as Merchandise Managers early in 2001, Bryan and Gill Smith took

on this task. The Committee would like to thank them for offering their services within an hour of the appeal at the AGM last year! Karen and Steve Munyard would be taking merchandise to meetings.

COMMITTEE MEMBERSHIP: The Committee recommended as good practice that any member considered as a potential President, should be invited to serve as a member of the Committee. It was also agreed that where there were two or more editors of a journal, only the senior editor should serve on the Committee *ex-officio*. An exception would continue to be made for J.A. Crabbe in view of his long service as an editor of the *Fern Gazette* and his long-time and continuing interest in the work of the Committee.

The Committee was sorry to receive during the year the resignation of Lawrence Kirkham as an elected member, due to family and work pressures. He has agreed to continue as Chairman of the Fern Varieties Nomenclature Subcommittee.

GREENFIELD AND CENTENARY FUNDS: A review of the constitutions and procedures for the Greenfield and Centenary Funds is under way.

PTERIDOLOGY AT THE ROYAL BOTANIC GARDENS, KEW: Members visiting the Royal Botanic Gardens at Kew recently will have been horrified to discover that the Filmy Fern House has been pulled down to make way for an extension to the Orangery for an expansion of the tea-room. In June, the President wrote to the Director, Prof. Peter Crane, expressing the Society's disappointment with this decision, and at the apparent running down of the other living fern collections and pteridophyte research at Kew. The reply, from Dr Nigel Taylor, was a grave disappointment to the Committee.

WG CDR ERIC BAKER'S FERN COLLECTION: Last year we reported the death of Eric Baker. He had a large collection of ferns, which his widow, Rita, felt unable to maintain and it was Jack Bouckley's inspiration that the collection should go to Brodsworth Hall in South Yorkshire (in the care of English Heritage) for planting in the restored Victorian Fern Dell. Jack and several other members represented the Society at the opening of the restored Dell on the 6th June.

DEATH OF MR A.J. WORLAND: Of the twelve past and present members of the Society who died in 2001, perhaps we should particularly mention the untimely death of Tony Worland, a long-time member and staunch supporter of the Society, being central to its activities in the 1970s and 1980s when he was firstly Meetings Secretary and then later the Fern Distribution Recorder. We send our condolences to his and all those families who have lost a member during the year.

The Secretary's report was approved, proposed by R.J. Cooke and seconded by M.S. Porter.

Item 5 – REPORT OF THE HONORARY TREASURER: In the absence of the Treasurer, A. Leonard, the Chairman presented the unaudited accounts for the year ending 31st December 2001.

The accounts were approved, subject to auditing, proposed by A.C. Jermy and seconded by A.M. Paul. (For audited accounts see page 72.)

Item 6 – REPORT OF THE MEMBERSHIP SECRETARY (M.S. Porter): In 2000, membership of the BPS topped 800 for the first time in the Society's history, and holding on to this increased membership in 2001 was obviously going to be a considerable challenge. It was pleasing to report that we were able to meet the challenge and, although membership numbers dropped slightly, they remained above the magic 800.

During 2001, 76 new members joined the Society. From information given on the Application Form three major reasons for joining could be identified: firstly, personal

recommendation by friends or colleagues already in the Society, secondly, the stimulus provided by exhibits at shows and talks given by members, and thirdly, (and perhaps now most important), the Society's website, which has obviously inspired an increasing number of people to become members.

Against the 76 gains had to be balanced 87 losses and the death of eight members. Again, this was a sad loss of fern enthusiasts, who had been deeply involved in the world of pteridology, and a number of whom had made a considerable contribution to the Society itself. Twenty-three members resigned, citing old age, infirmity or loss of interest as their reason. On this occasion there were no expressions of dissatisfaction and, in fact, many of those resigning sent their thanks and best wishes for the Society's future. The remaining losses were the 50+ lapsed members, some of whom may have been extremely dissatisfied with the Society but, since they said nothing on the subject, we do not know the grounds for their dissatisfaction and could, therefore, do nothing to rectify matters. I should stress that I do pass on all comments (particularly negative ones!) either to the Committee or to the Society Officer concerned and I know that serious attempts are made to remedy perceived weaknesses.

The final breakdown of members for 2001 was as follows: 36 Complimentary or Honorary Members, 53 Family Members, 606 Ordinary Members, 10 Students and 96 Subscribers, giving a total of 801 members.

Item 7 – REPORT OF THE CONSERVATION OFFICER AND RECORDER (R.J. Cooke): 2001 was a relatively quiet year with only five requests for information. These all concerned plans to re-point old walls supporting aspleniums, and in one case *Osmunda* (on a canal wall). In these situations it is difficult to advise anything else other than to leave some fern-rich areas temporarily unpointed to allow re-colonisation. Ferns in walls are notoriously difficult to re-establish elsewhere and this was, in my view, not really a viable option in these circumstances, so we would have to rely on the ferns' ability to colonise. If this has happened near you it would be interesting to record rates of re-colonisation, and whether or not the same species are involved.

The big event of the coming year will be the launch of the Botanical Society of the British Isles' new Atlas. This 'millennium project' was to update the 1962 plant atlas, and will include updated distributions for all ferns. No doubt this will stimulate further recording in which the Society should participate. Watch *Pteridologist* for details.

During comments, A.C. Jermy said that that he would like to see the Society publish a separate volume of the fern records. R.J. Cooke replied that he saw no obstacle to obtaining the records as they were held by the Environmental Information Centre, Monks Wood, and were not copyrighted, but the Society would need to add its own text as the BSBI text would be under copyright.

Item 8 – SUBCOMMITTEE (Permanent) REPORTS:

8.1 – MEETINGS SUBCOMMITTEE (P.J. Acock): It was feared that the field meetings would be completely disrupted by foot and mouth disease in 2001. In the event, it was mainly some regional meetings and the end-of-Symposium Excursion that succumbed to this scourge of the countryside.

The early meeting in Guernsey proved a great delight, with many regulars and newer members enjoying the very different pteridophytes, pleasant weather and evening banter. Andrew Leonard must be complemented for his diligent work in seeking out every last plant of interest. The AGM proved ever popular as the place where the membership could meet and leisurely exchange ideas through interesting discussions

and talks. Thanks go to Barrie Stevenson and his group for hosting it so well and to Graham Ackers for putting together such an interesting programme. The Cornish meeting went ahead despite being at the peak of the epidemic, with Rose Murphy and Ian Bennallick arranging a very varied and full event. The meeting was noteworthy for the discovery of only the second locality for the only 'alien x native' hybrid fern in Britain, *Polystichum munitum* x *P. setiferum*. The late season meeting at Wakehurst was eventful and some members travelled a considerable distance to be present. The autumn meeting, though not so well attended considering its central location, was so much greater than the sum of the individual pieces, and was greatly enjoyed by those present. We must thank Jennifer Ide who conceived and organised such a fine event.

I am sure you would want me to pass on our grateful thanks to all our organisers and their helpers, many of whom miss part of the programme to check that the events are running smoothly. Another packed programme has been arranged for 2002, and the planning for 2003 is nearing completion. The Subcommittee would like to give the membership every opportunity to suggest ideas for and to lead meetings, and hope you will contact us after the meeting or by dropping us a line.

After the presentation of the report, A.C. Jermy suggested that a meeting could be planned around one or more of the Special Interest Groups, thus providing an opportunity for members of the group or groups to meet. P.J. Acock replied that such a meeting was planned for 2003.

8.2 – Publications Subcommittee (Prof. A.C. Wardlaw): After several years of dedicated service, Miss J.M. Camus resigned as Chairman of the Publications Subcommittee in April 2001. The Society owes her a great debt for furthering the publishing activities of the Society, particularly for her initiative in introducing the copyrighting of Society publications and for being Chief Editor of *The Fern Gazette*. Until a replacement is found, the President has assumed temporary chairmanship of this Subcommittee. To deal with the problem of members having difficulty in physical attendance at meetings, a new system of electronic exchange of subcommittee business has been introduced, all current members being on e-mail.

8.2.1 – *Bulletin*: The 2001 *Bulletin* was again a bumper issue comprising 72 pages plus a complete membership address list. As always, the Editor would appreciate feedback on the length and general content of reports. The activities of the Society continued to diversify, and despite the restrictions caused by the foot and mouth epidemic, the Regional Groups managed a notable programme of meetings that required a full 24 pages of the *Bulletin*. The Society is very fortunate to have such a dedicated and competent Editor as Miss A.M. Paul producing the *Bulletin*.

Index to BPS Bulletin. A.M. Paul reported that Jonathan Crowe had completed a draft index to volumes 1-4 of the *Bulletin* (1973-1995). It is hoped that an index to volumes 1-5 will be published in the next year.

8.2.2 – *The Fern Gazette*: The year started well with the spring issue of the journal appearing on time. But then publication was interrupted by the resignation of Miss J.M. Camus as Chief Editor. Despite extensive enquiries by the President, no person willing to become Chief Editor had been found by October 2001 and, as a stopgap measure, the President, with assistance from R.J. Cooke and Dr N.J. Hards, undertook to get the autumn 2001 issue published from manuscripts already in the pipeline. This 52-page issue is now in the final stages of preparation. Meanwhile, in December 2001, Dr M. Gibby volunteered to become Chief Editor of *The Fern Gazette* and was expected to take over the management of the journal during summer 2002.

8.2.3 – *PTERIDOLOGIST*: Prof. B.A. Thomas completed a four-year period as Editor in May 2001 and deserves a warm expression of appreciation from the Society for having maintained the journal with many interesting articles during this period. Later in the summer of 2001, Dr J.W. Merryweather, who had been Editor previously, indicated his willingness to undertake another tour of duty as Editor. As always, the Editor is dependent on members of the Society for submission of papers on all general aspects of pteridology. The new Editor, with backing from the Committee, is keen for *Pteridologist* to become the 'flagship' publication of the Society, both serving the existing membership and attracting new members. For example, a new initiative to be explored could be supplying the magazine for sale at public gardens where ferns are a major attraction. To that end, it is proposed that the page size be increased to A4, to bring the magazine into line with current publishing trends and to allow greater flexibility and attractiveness of internal layout.

There was a general agreement amongst members present for the proposed A4 format. A.C. Jermy commented that the editor needed to be a commissioning editor.

8.2.4 – WORLD WIDE WEB SITE: A.C. Pigott continued to manage the Society's site on the World Wide Web and was always on the lookout for new material. Members were referred to his article published in a previous *Bulletin* (Vol. 5(5): 276, 2000).

8.2.5 – OTHER PUBLICATIONS AND SPECIAL PUBLICATIONS: Prof. B.A. Thomas had indicated his willingness to become Editor of Special Publications.

8.2.5.1 – *Symposium Proceedings*: The proceedings of the very successful International Symposium on *Fern Flora Worldwide – Threats and Responses*, which was held at the University of Guildford, Surrey in July 2001, is being prepared as a special volume of *The Fern Gazette*. Dr A.F. Dyer, Dr E. Sheffield and Prof. A.C. Wardlaw are editing it. The volume is likely to run to around 230 pages and to contain the text versions of about 25 papers that were presented at the Symposium, together with the Abstracts of over 30 posters. Publication is expected during the summer of 2002. This volume will be dedicated to A.C. Jermy to mark his 70th birthday.

8.2.5.2 – *BPS Minute Book CD*: The Society's most valuable archive, the 630-page Minute Book, had been scanned in colour by B. Wright, and a CD is now on offer by subscription. Further particulars are contained in the flyer presented at the current meeting.

8.2.5.3 – *Index for Pteridologist*: M. Searle had completed the compilation of an Index for the last volume (Vol. 3) of *Pteridologist*, and was about to start indexing Volumes 1 and 2. When complete, these indexes will provide invaluable access to information on the wide range of pteridological subjects published in that magazine since 1984.

8.2.5.4 – *Special Interest Group Newsletters*: Since their inception in 1994 the three BPS Special Interest Groups: Filmy Ferns, Foreign Hardy Ferns and Tree-Ferns, have suffered from the problem of having insufficient copy to sustain the regular production of Newsletters. Moreover, with substantial articles there is the question of whether they would be better published in *Pteridologist*, and thus be available to the BPS membership as a whole. A possible way forward would be to sustain the Groups by (a) a periodic Group indoor meeting within the regular BPS programme of indoor meetings, and (b) the compilation and circulation of Group members' holdings of taxa, and horticultural notes, as a contribution to the emerging theme of *ex situ* conservation of rare and threatened species of pteridophyte.

8.3 – FERN VARIETIES NOMENCLATURE SUBCOMMITTEE: No report.

Item 9 – SUBCOMMITTEE (ad hoc) REPORTS:

9.1 – FERN ATLAS SUBCOMMITTEE: No report.

Item 10 – COMMITTEE-APPOINTED OFFICERS AND MANAGERS:

10.1 – ARCHIVIST (A.R. Busby): I have been trying to find a central place where archive material could be located, and received one quote for rent of £17,000 per year! Items for the archive are at risk through not being in the correct environment and through being lost due to not being in a single central location but scattered amongst members, a number of whom are of advancing years.

A.C. Wardlaw commented that once the Society had obtained charity status, there was the possibility of seeking funds from the Lottery and Heritage Funds for the archives.

10.2 – BOOKSALES (S.J. Munyard): Booksales had a successful year in 2001 despite the usual problem of finding second-hand stock. I lost the hard drive on my computer as a result of the telephone line being struck by lightning, which meant that members' book requests had been lost. If any member requires a particular book title, please let me know and I will try to fulfil the request. Due to the influence of the Internet on book prices, Booksales would now carry a higher proportion of new publications. Second-hand prices in a lot of cases have doubled, or even quadrupled in the last year, and it is not a viable proposition for me to purchase them. Booklists are now sent out all through the year upon receipt of a SAE, therefore the list sent out with the *Bulletin* would show only BPS and new publications.

10.3 – MERCHANDISE (B.D. & G. Smith): We were very pleased to be asked to take over running BPS Merchandise when Mr M.J. and Mrs L.I. Craddock regrettably decided that they could no longer do so. Our task was made so much easier when, in June, Mick and Linda handed over the carefully listed merchandise stock, and explained in great detail (with notes) how to manage things. Since then, there has been a slow but steady stream of merchandise requests, and there was an extremely healthy injection of funds from sales at the Guildford Symposium. It seemed that everyone wanted some memento of the BPS and a magnificent £337 was raised at that event alone.

For the future, apart from much needed re-stocking of items, we are looking for new items to add to the merchandise list. Hallmark Cards in the USA, who produced a lovely fern-covered serviette, were approached but unfortunately no reply has been received. Other items being exploring are BPS pens, china mugs and beach towels. When samples and information on prices have been gathered together, we will present them to the Committee for approval. If anyone has any other ideas and/or contacts, please let us know - either by letter or via the BPS Merchandise e-mail address.

10.4 – PLANT EXCHANGE (R. & B. Smith): The past year was exceptional in that two lists were circulated, instead of the usual one in September. This resulted in a double response, with enquiries amounting to over 100, some from the same source, the net figure for individual enquiries being around 75. Sincere thanks to all those who have contributed to the scheme. One interesting feature was the extensive number of *Selaginella* and *Equisetum* species on offer, which provided an excellent opportunity for anyone wishing to develop a collection of these particular taxa.

We are hopeful that the next circular will be included in the 2002 *Pteridologist* and that an updated list will be available for distribution in September.

10.5 – SPORE EXCHANGE (B. & A. Wright): The exchange continued to be a popular service offered to members, with 145 requests being received and processed, resulting in the sending out of 2,477 packets of spores (an average of 17 packets per request). Of these, 102 requests were from UK members (England 86, Scotland 6, Wales 10) and 43 requests came from 20 overseas countries, which confirms the international nature of the exchange. (Australia 20, Austria 1, Belgium 2, Canada 1, Czech Republic 1, Denmark 1, Eire 2,

Estonia 2, France 6, Germany 8, Israel 1, Kenya 1, Luxembourg 1, Mauritius 1, Mexico 1, Netherlands 2, Poland 2, Sri Lanka 1, Switzerland 1, USA 5.)

Of the 571 taxa on the 2001 list there were requests for 528 of them. To give an idea of the pattern of requests – there were only 38 taxa where more than ten packets of each taxon were sent out. The majority of taxa were requested less than five times. This figure is slightly artificial as some donations were so small that we could only make up five packets, or less, as in the case of *Woodsia alpina* and *W. ilvensis*, which are always requested beyond our ability to supply. The top ten species (those of which the most number of packets were sent out in 2001) were as follows, with the number of times they were requested: *Cheilanthes argentea* 25, *Woodwardia areolata* 23, *Woodwardia fimbriata* 19, *Asplenium ceterach* 18, *Woodwardia unigemmata* 18, *Blechnum chilense* 18, *Polystichum lonchitis* 16, *Todea barbara* 16, *Cryptogramma crispa* 15, *Polystichum drepanum* 15.

A.R. Busby reported that he had only a single request for *Osmunda* spores in 2001.

During 2001 we received donations from 27 donors. Without donations there would not be an exchange. We are grateful for all the spores we received and would also like to thank those requesting them for their patience in the early weeks of the distribution. Dealing with the first flush of requests continued to be a problem. We usually get around 70 requests in the first two weeks of the list being sent out. The way we run the exchange means that we can take up to six weeks to turn round some of the earliest requests. As the exchange year progresses, we have a shorter turn-round period. We hope to publish an article in *Pteridologist* about exactly how we manage the exchange.

10.6 – HORTICULTURAL INFORMATION OFFICER (A.R. Busby): Eight enquiries were received, all but one from non-members.

The above reports, Items 6 to 10.6, were accepted *en bloc*, proposed by S.E. Czeladzinski and seconded by S.D. Martinelli.

Item 11 – ELECTION OF OFFICERS AND COMMITTEE MEMBERS:

ELECTION OF OFFICERS, COMMITTEE MEMBERS AND AUDITORS: With the exception of Miss J.M. Camus, who had resigned as Chief Editor of *The Fern Gazette*, the present officers of the Society were all eligible for re-election and had indicated their willingness to stand. Dr M. Gibby and Dr J.W. Merryweather had agreed to stand as Editors of *The Fern Gazette* and *Pteridologist* respectively. Of the present elected members of the Committee, L. Kirkham had retired earlier in the year and B. Wright and Dr S.D. Martinelli were retiring and not eligible for re-election. The remaining elected members (R.G. Ackers, Dr A.F. Dyer, E. Knox-Thomas, Dr F.J. Rumsey and R.W. Sykes) were eligible for re-election and had indicated their willingness to stand. The auditors, P.H. Ripley and Mrs K. Munyard, were both eligible for re-election and had indicated their willingness to stand. It was proposed from the Chair and seconded by S.D. Martinelli and S.E. Czeladzinski, that all officers, those elected members eligible for re-election and the auditors be elected *en bloc*. The vote was unanimously in favour.

ELECTION OF NEW COMMITTEE MEMBERS: There were four nominations for Committee membership as follows:

Stefan E. Czeladzinski – proposed P.J. Acock, seconded P.H. Ripley
Mike L. Grant – proposed P.J. Acock, seconded P.H. Ripley
Steve J. Munyard – proposed M.S. Porter, seconded R.J. Cooke
Paul H. Ripley – proposed J.M. Ide, seconded A.M. Paul.

The above were duly elected unanimously.

Item 12 – CONSTITUTIONAL CHANGES: As reported by the General Secretary under item 4 above, the Charity Commissioners required amendments and the addition of clauses

to the Constitution before they would confer charity status on the Society. The following proposed changes were circulated with the last *Bulletin*.

1. Clause 2. *OBJECTS The objects of the Society are to promote and encourage the cultivation of ferns and other pteridophytes and to further the study of their taxonomy, distribution, conservation and ecology through publications, meetings and grants.*

To be re-drawn as follows: *OBJECTS The objects of the Society are to promote horticulture for the public benefit particularly by encouraging the cultivation of ferns and other pteridophytes and to further education in and study of their taxonomy, distribution, conservation and ecology through publications, meetings and the provision of grants.*

2. Clause 10. *ALTERATION TO RULES This Constitution may be altered as follows: Any proposal for alteration or addition to this Constitution shall be in writing, and shall be signed by two members, and be deposited with the Honorary General Secretary not less than thirty days before the Annual General Meeting. Such alteration or addition shall be included in the Agenda of that meeting and circulated to all members and shall not be carried unless the votes of two-thirds of the members present at the meeting are cast in favour.*

To be amended as follows: *ALTERATION TO RULES Any proposal for alteration or addition to this Constitution shall be in writing, and shall be signed by twenty members, and be deposited with the Honorary General Secretary not less than thirty days before the Annual General Meeting or at an Extra-ordinary General Meeting called for the purpose. Such alteration or addition shall be included in the Agenda of that meeting and circulated to all members and shall not be carried unless the votes of two-thirds of the members present at the meeting are cast in favour.*
No alteration shall be made which would have the effect of making the Society cease to be a charity at law.

3. The addition of the following clauses of empowerment, inserted as Clause 4:

4. POWERS In furtherance of the objects but not otherwise the Executive Committee may exercise the following powers:
(i) power to raise funds and to invite and receive contributions provided that in raising funds the Executive Committee shall not undertake any substantial permanent trading activities and shall conform to any relevant requirements of the law;
(ii) power to buy, take on lease or in exchange any property necessary for the achievement of the objects and to maintain and equip it for use;
(iii) power subject to any consents required by law to sell, lease or dispose of all or any part of the property of the Charity.
(iv) power subject to any consents required by law to borrow money and to charge all or any part of the property of the Charity with repayment of the money so borrowed;
(v) power to employ such staff (who shall not be members of the Executive Committee) as are necessary for the proper pursuit of the objects and to make all reasonable and necessary provision for the payment of pensions and superannuation for staff and their dependants;
(vi) power to co-operate with other charities, voluntary bodies and statutory authorities operating in furtherance of the objects or of similar charitable purposes and to exchange information and advice with them;
(vii) power to establish or support any charitable trusts, associations or institutions formed for all or any of the objects;
(viii) power to appoint and constitute such advisory committees as the Executive Committee may think fit;
(ix) power to do all such other lawful things as are necessary for the achievement of the objects.

4. The addition of the following clauses concerning the Society's finances, inserted as Clauses 5 and 6 respectively:

5. RECEIPTS AND EXPENDITURE
(i) The funds of the Charity, including all donations contributions and bequests, shall be paid into an account operated by the Executive Committee in the name of the Charity at such bank as

the Executive Committee shall from time to time decide. All cheques drawn on the account must be signed by at least two members of the Executive Committee.
(ii) The funds belonging to the Charity shall be applied only in furthering the objects.

6. ACCOUNTS
The Executive Committee shall comply with their obligations under the Charities Act 1993 (or any statutory re-enactment or modification of that Act) with regard to:
(i) the keeping of accounting records for the Charity;
(ii) the preparation of annual statements of account for the charity;
(iii) the auditing or independent examination of the statement of account of the Charity; and
(iv) the transmission of the statements of account of the Charity to the Commission.

Original clauses 4-10 to be renumbered to take account of new clauses; separate paragraphs within all clauses to be numbered appropriately.

Before putting the proposals to the vote, one correction to the published proposals was noted: the first sentence of the proposed amended Clause 10 should read "... *not less than thirty days before the Annual General Meeting or* before *an Extra-ordinary General Meeting* ..." The acceptance of all the changes was proposed by R.W. Sykes, seconded by S.D. Martinelli and carried unanimously. [The revised Constitution can be seen on page 75.]

Item 13 – HONORARY MEMBERSHIP: A proposal to award Honorary Membership to A.C. Jermy, supported by a detailed document setting out his contribution to the Society and to pteridology in general, had been made by Miss J.M. Camus and seconded by Miss A.M. Paul. The President noted that in the past the Society had been frugal in its giving of Honorary Membership, however, the Committee was unanimous in its wish to honour A.C. Jermy in this way and he was congratulated by the meeting. [See tribute on page 73 of this issue.]

Item 14 – ANY OTHER BUSINESS: There being no further formal matters for consideration, after two announcements the Chairman declared the meeting closed at 15.30 hours.

Jennifer M. Ide
Hon. Gen. Secretary

NOTES TO THE ACCOUNTS

1. The accounts reflect the subscriptions actually received in the year.
2. BPS Booksales had assets of £5,361.24 (£5,708.28) at 31.12.2001.
3. The Society also possesses the following assets:
   Back issues of the *Bulletin*, *Fern Gazette* and *Pteridologist* valued at approximately £3,000.
   Merchandise valued at approximately £1,500.
   Booksales has a computer valued at £600 in 2000.
4. The Society made no grants in 2001.
5. The Society bought a computer for the editor of *Pteridologist* for £1,133.99.
6. The numbers of copies of publications are shown on either side of the title.
7. The Symposium accounts 2000-2001:
   The total income from the symposium was £21,976.72.
   The total expenses of the symposium was £22,055.12.
   The difference (–£78.40) was made up by BPS funds.
   The committee had offered the symposium £400.00.

K. Munyard & P.H. Ripley

AUDIT

We have audited these accounts and found them to be an accurate record of the Society's finances.

FINANCIAL STATEMENT AS AT 31 DECEMBER 2001

ORDINARY ACCOUNT

(2000)		INCOME:		2001
£11,732.81		Subscriptions		£12,973.77
922.31		Interest		637.48
70.00		Booksales		749.71
382.25		Merchandise		704.60
48.00		Plant Sale		55.00
673.00		Symposium 2001		21,303.72
£13,828.37		**TOTAL INCOME**		**£36,424.28**
		EXPENDITURE:		
1,936.63		Pteridologist		3,241.45
9,068.80		Fern Gazette		4,762.08
3,476.50		Bulletin		3,990.10
231.14		Printing & Stationery		585.25
1,252.76		Administration & Postage		1,061.37
60.40		Subscriptions to Societies		47.50
100.00		Plant & Spore Exchanges		51.37
677.21		Meetings		529.62
799.88		Merchandise		
3,647.98		Symposium 2001		18,407.14
600.00		Booksales		749.71
–		Special Interest Groups		57.84
£21,851.30		**TOTAL EXPENDITURE**		**£33,483.43**
(8,022.93)		BALANCE for current year		2,940.85
18,141.21		Balance brought forward		10,118.28
£10,118.28		**Balance carried forward at 31.12.2001**		**£13,059.13**

CENTENARY FUND

6,255.14		Balance brought forward		6,086.15
318.01		Interest		383.44
(511.00)		Grants		
24.00	*174*	World of Ferns	*172*	16.00
£6,086.15		**Balance carried forward at 31.12.2001**		**£6,485.59**

GREENFIELD FUND

1,828.07		Balance brought forward		1,927.01
92.94		Interest		121.41
–		Grants		
6.00		Donations		3.00
£1,927.01		**Balance carried forward at 31.12.2001**		**£2,051.42**

PUBLICATIONS ACCOUNT

5,332.67		Balance brought forward		5,109.38
271.11		Interest		321.90
241.40		Offprints		255.67
20.80	*166*	Fern Names & Their Meanings	*155*	39.75
(860.00)		Cultivation & Propagation reprint		
84.00	*376*	Cultivation & Propagation	*339*	128.30
14.40	*831*	History of British Pteridology	*819*	60.00
5.00	*436*	BPS Abstracts & Papers	*430*	39.30
£5,109.38		**Balance carried forward at 31.12.2001**		**£5,954.30**

AWARDS

HONORARY MEMBERSHIP – A. CLIVE JERMY

At the AGM on 16th March 2002 Honorary Membership was conferred on Clive Jermy for his services to pteridology and to the BPS. The following tribute by JMC was published in Taxon *(42: 477-479, 1993) to mark Clive's retirement from The Natural History Museum, London and is reprinted here with permission, with amendments and additions.*

Clive Jermy is a name associated round the world with ferns, conservation and sedges. He took up the role of Head of the Fern Section in the Department of Botany of the British Museum (Natural History), London, on 6th October 1958, after his postgraduate studies on *Carex* at the University of Leicester.

He immediately took the British pteridological world in hand, publishing *A preliminary census list of British pteridophytes* in 1959, the year he also took over as editor of the British Pteridological Society's journal *The British Fern Gazette* (now known as *The Fern Gazette*). His influence over this Society has been impressive and of long duration. He has held these offices: Editor of *The Fern Gazette* (1959-1965 sole editor, 1966-1983 with others), Editor of Special Publications series (1984-2002), President (1982-1985) and Vice-President (1987-1993).

The Society's President Emeritus, J.W. Dyce, credited Jermy with taking the BPS (a mainly horticultural and amateur society) 'into the botanical world' and making it a truly international society at all levels of pteridology. Jermy encouraged the membership to think about all aspects of a fern or fern ally – morphology, genome, ecology. In 1978 the *Atlas of Ferns of the British Isles* was published as a result of collaboration initiated by Jermy between the BPS and the Botanical Society of the British Isles. *The BM Fern Crib* (1987) was so popular that it led to publication of *The Illustrated Field Guide to Ferns and Allied Plants of the British Isles* in 1991.

Jermy was the driving force behind two of the Society's three international symposia: *The phylogeny and classification of the ferns*, held jointly with the Linnean Society in 1972, and the BPS's centenary symposium in 1991 on *The cultivation and propagation of pteridophytes*.

He was awarded the Society's rarely bestowed Stansfield Medal for outstanding services to pteridology in 1991.

Jermy's enthusiastic and international role in furthering pteridology has led to the highly apt tag of 'catalyst'. There cannot be a pteridologist in the world of any discipline who is not indebted to Jermy in some way or other. He has given unstinted encouragement to novices and helped established scientists. His help has been especially valuable to those in countries where the pursuit of such academic studies has not been greatly supported. His determination enabled him, in 1978, to be one of the first foreign scientists to visit the People's Republic of China in many years.

His publication (with Jim Crabbe and John Mickel) in 1975 of *A new generic sequence for the pteridophyte herbarium* is widely used round the world by herbaria.

In 1981, Jermy instigated the International Association of Pteridologists, which started under the aegis of the International Association of Plant Taxonomists. He has held the office of Chairman (1981-1987), and also edited its Newsletter from its initiation in 1986 until 1992.

Jermy has collected pteridophytes (and other plants) in every ecosystem from tundra to everwet tropical forests. His collecting numbers are now in the 23,000s. His ample collections of multiple sets are enhanced by his valuable sampling of 'piccaninnies' (sporeling plants), which greatly enriched the living collections of the Royal Botanic Gardens, Kew, and opened up new avenues of pteridological research – developmental studies, cytology, electrophoretic study of enzymes, and, most topical of all, DNA sequencing.

Jermy's renowned predecessor, A.H.G. Alston, died with his manuscript on South American *Selaginella* unfinished. This work was completed (with J.M. Rankin) and published in 1981. His current research interests lie with lycopods (*Diphasiastrum* and *Isoetes*) and ferns (*Dryopteris affinis* complex and *Trichomanes*). He has worked closely with Dr Trevor G. Walker on aspects of taxonomy and cytology of the pteridophytes of Trinidad and (with other colleagues as well) of SE Asia.

The enthusiasm Jermy gives to pteridology has spilled over into two other fields – exploration and conservation.

He received the prestigious Murchison Award from the Royal Geographical Society, London, in 1980. This is given for the advancement of geographical science and was awarded to Jermy for his efforts as: scientific co-ordinator of the RGS Gunung Mulu, Sarawak, expedition in 1977/78; first honorary head of the Expedition Advisory Centre at the RGS; trustee of the Young Explorers' Trust and its chairman for three years in the mid 1990s.

In the course of conservation, he has long been associated with local British organisations such as the Norfolk Naturalists' Trust and The Kent Trust for Nature Conservation. On the international front, he has been a member of the Species Survival Commission Plant Conservation Committee of IUCN World Conservation Union, Co-Chair of the Pteridophyte Specialist Group and has served as a council member of the Fauna and Flora Preservation Society (now FFI). He has been a member of the Botanical Society of the British Isles since 1954, a Vice-President 1991-1995, an Honorary Member since 1997 and an active member of their Conservation Committee. He was deeply involved with the forming and managing of the Conservation Association of Botanical Societies in 1988 and played a major role in the group that founded Plantlife (the only organisation solely devoted to plant conservation) in 1989.

Pteridophyte taxonomy is, as a discipline, a good proving ground for stamina and determination. Hence, two years before his retirement on 2nd July 1992, Jermy took up the challenge of revitalising the Botany Department's collections management policy when the Department was restructured.

Jermy's colleagues are secure in the knowledge that his retirement merely means the shedding of administrivia and more time to devote to that most pleasurable occupation – the study of ferns.

Since his retirement, Clive Jermy has concentrated on the international aspects of fern conservation, promoting the work of the IUCN Species Survival Commission Specialist Group for Pteridophytes. He played a major role in a fourth international BPS symposium as Co-ordinator of the Scientific Programme for *Fern flora worldwide – threats and responses* held in 2001. He is currently working with his co-authors towards a revised edition of the BSBI handbook *Sedges of the British Isles*.

Josephine M. Camus

CONSTITUTION
OF THE BRITISH PTERIDOLOGICAL SOCIETY

As adopted at the AGM 27 September 1961 (with amendments 1972, 1975, 1983, 2000 & 2002)

1. NAME The Society shall be called "The British Pteridological Society".

2. OBJECTS The objects of the Society are to promote horticulture for the public benefit particularly by encouraging the cultivation of ferns and other pteridophytes and to further education in and study of their taxonomy, distribution, conservation and ecology through publications, meetings and the provision of grants. *(March 2000, March 2002)*

3. MANAGEMENT

(i) The Officers of the Society shall consist of a President, up to six Vice-Presidents, a General Secretary, a Treasurer, the Editors of the Society's regular publications comprising the Bulletin, the Fern Gazette, the Pteridologist, the Society's World Wide Web Site, a Membership Secretary, a Meetings Secretary and a Conservation Officer. All posts being honorary. *(October 1972, March 2000)*

(ii) The Management of the Society shall be in the hands of a Committee consisting of not more than ten elected members with the addition of the Officers of the Society. Five members, of which one will be an Officer, shall constitute a quorum. The Committee shall have the power to co-opt additional members for special purposes, including Assistants to the Honorary General Secretary, Honorary Treasurer and Editors of Publications. *(October 1972, March 2000)*

(iii) Any Holders of Committee appointments, such as Spore Exchange Organiser, Plant Exchange Organiser, Booksales Organiser, or Archivist, who are not also either an elected Officer of the Society or an elected Member of the Committee, will be eligible to attend Committee Meetings but will have no voting rights. *(March 2000)*

(iv) The President shall be elected at an Annual General Meeting and remain in office for three years and on retirement shall not be eligible for immediate re-election. All Vice-Presidents shall be elected at an Annual General Meeting and remain in office for six years. On retirement they shall not be eligible for re-election. All other Officers of the Society shall be elected at the Annual General Meeting and remain in office until the next Annual General Meeting when they shall retire but be eligible for re-election. Members of the Committee shall be elected at an Annual General Meeting, and shall remain in office until the next Annual General Meeting when they shall retire but be eligible for re-election with the exception of the two members with the longest service who shall not be eligible for re-election until after the lapse of one year. In the event of there being more than two members of the Committee who would be ineligible for re-election, the names of those to retire shall be decided by lot. Should a vacancy occur during the year, such a vacancy may be filled by Committee. *(February 1983, March 2000)*

(v) A resolution in writing signed and agreed to by all members of the Committee for the time being in the United Kingdom shall be as valid and effectual as if it had been passed at a meeting of the Committee duly called and held, and may consist of several documents in the like form each signed by one or more members of the Committee.

(vi) Nominations for Officers and members of the Committee must normally be received by the Honorary General Secretary twenty-one days before the Annual General Meeting.

4. POWERS *(New clause March 2002)*

In furtherance of the objects but not otherwise the Executive Committee may exercise the following powers:

(i) power to raise funds and to invite and receive contributions provided that in raising funds the Executive Committee shall not undertake any substantial permanent trading activities and shall conform to any relevant requirements of the law;

(ii) power to buy, take on lease or in exchange any property necessary for the achievement of the objects and to maintain and equip it for use;

(iii) power subject to any consents required by law to sell, lease or dispose of all or any part of the property of the Charity;

(iv) power subject to any consents required by law to borrow money and to charge all or any part of the property of the Charity with repayment of the money so borrowed;

(v) power to employ such staff (who shall not be members of the Executive Committee) as are necessary for the proper pursuit of the objects and to make all reasonable and necessary provision for the payment of pensions and superannuation for staff and their dependants;

(vi) power to co-operate with other charities, voluntary bodies and statutory authorities operating in furtherance of the objects or of similar charitable purposes and to exchange information and advice with them;

(vii) power to establish or support any charitable trusts, associations or institutions formed for all or any of the objects;

(viii) power to appoint and constitute such advisory committees as the Executive Committee may think fit;

(ix) power to do all such other lawful things as are necessary for the achievement of the objects.

5. RECEIPTS AND EXPENDITURE *(New clause March 2002)*

(i) The funds of the Charity, including all donations contributions and bequests, shall be paid into an account operated by the Executive Committee in the name of the Charity at such bank as the Executive Committee shall from time to time decide. All cheques drawn on the account must be signed by at least two members of the Executive Committee.

(ii) The funds belonging to the Charity shall be applied only in furthering the objects.

6. ACCOUNTS *(New clause March 2002)*

The Executive Committee shall comply with their obligations under the Charities Act 1993 (or any statutory re-enactment or modification of that Act) with regard to:

(i) the keeping of accounting records for the Charity;

(ii) the preparation of annual statements of account for the charity;

(iii) the auditing or independent examination of the statement of account of the Charity; and

(iv) the transmission of the statements of account of the Charity to the Commission.

7. MEETINGS

(i) The Annual General Meeting of the Society shall be held at such time and place as the Committee may decide for the purpose of passing accounts, electing Officers and the Committee and transacting the general business of the Society. General and field meetings shall be held at the discretion of the Committee.

(ii) An Extra-ordinary General meeting shall be called by the Honorary General Secretary within thirty days of receiving a request in writing from the Committee or of not less than twenty members stating the purpose for which such a meeting is required.

(iii) At least twenty-one days notice of any General Meeting shall be given to all members.

8. NOTICES The accidental omission to give notice of a meeting to, or the non-receipt of notice of a meeting by, any member shall not invalidate any proceedings or resolutions at any meeting of the Society or any Committee thereof except in the case of removal from membership.

9. ORDINARY MEMBERSHIP AND SUBSCRIPTIONS The annual subscription payable by members shall be payable in advance, and due on the First of January in each year, or on the election of the members. The rates of subscription shall be fixed by a General Meeting from time to time. *(October 1975)*

10. HONORARY MEMBERSHIP The Committee may elect any person or persons to Honorary Membership of the Society. Honorary Members shall be entitled to all the privileges of membership, but shall not be liable for payment of any subscription.

11. REMOVAL FROM MEMBERSHIP

(i) Any member failing to pay his subscription within six calendar months of its becoming due shall be liable to have his name removed from the List of Members of this Society.

(ii) Any member whose conduct in the opinion of the Committee is prejudicial to the interests of the Society may be removed from membership by a two-thirds majority vote of those present at a meeting of the Committee on the Agenda of which the words "Removal of a Member" shall have appeared; provided no member may be so removed unless due notice has been sent to the member of the intention of the Committee to proceed under this rule and of the nature of the charges made and an opportunity has been afforded of answering such charges to the satisfaction of the Committee. A member so removed shall forfeit any claim upon the Society.

12. AWARDS The Committee may make awards in respect of plants of outstanding scientific or horticultural interest.

13. ALTERATION TO RULES

(i) Any proposal for alteration or addition to this Constitution shall be in writing, and shall be signed by twenty members, and be deposited with the Honorary General Secretary not less than thirty days before the Annual General Meeting or before an Extra-ordinary General Meeting called for the purpose. Such alteration or addition shall be included in the Agenda of that meeting and circulated to all members and shall not be carried unless the votes of two-thirds of the members present at the meeting are cast in favour. *(March 2002)*

(ii) No alteration shall be made which would have the effect of making the Society cease to be a charity at law. *(March 2002)*

14. DISSOLUTION The Society may be dissolved by a vote of at least three-quarters majority of those present and voting at an Extraordinary General Meeting called for that purpose and if an effective resolution for dissolution is passed the surplus funds and property of the Society shall be disposed of to an agreed charitable organisation of similar interest. *(March 2002)*

OBITUARIES

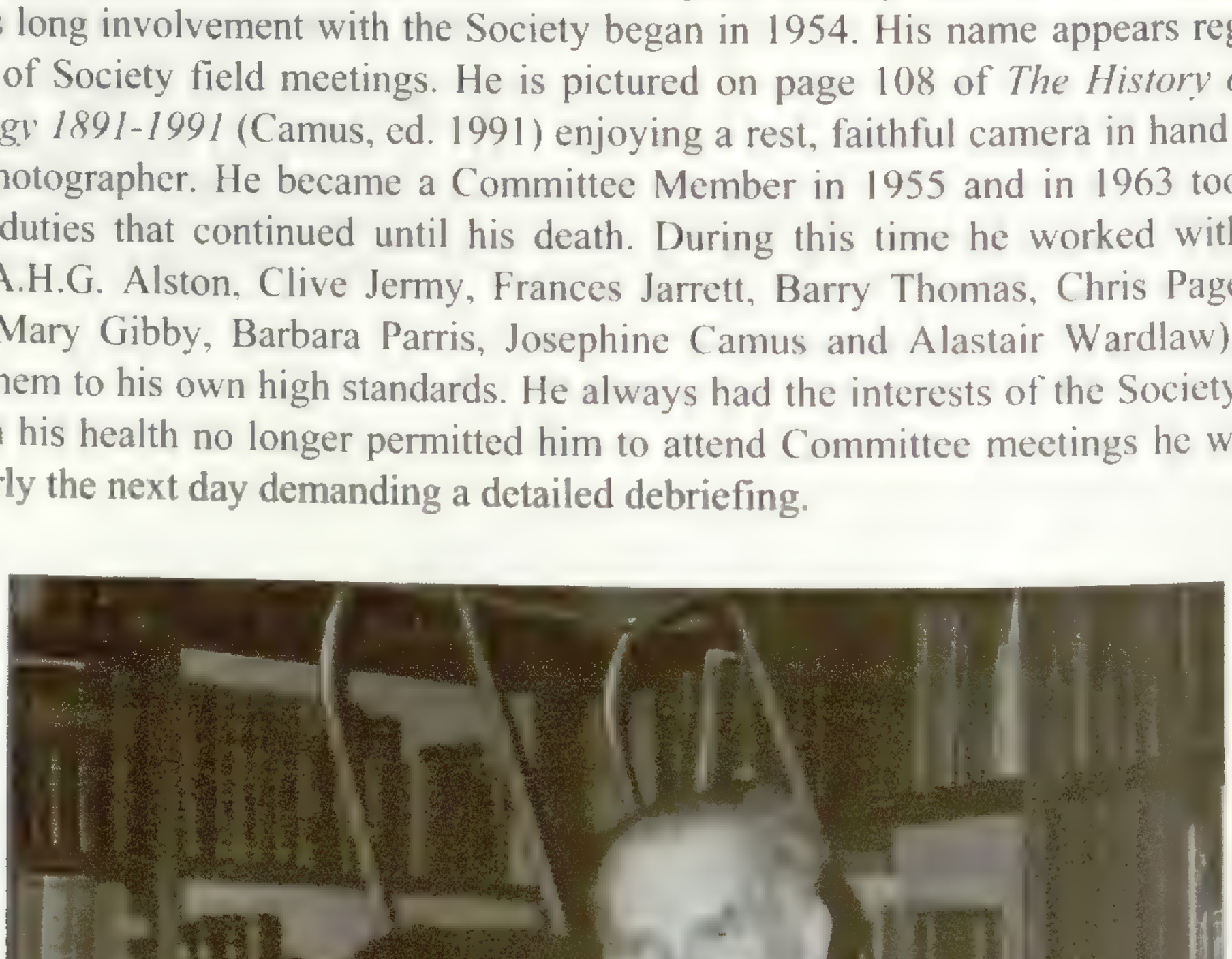
JAMES ALBERT CRABBE 1914 – 2002

It is with great sadness that we report the news of Jim Crabbe's death on 22nd August 2002. That his name has been associated with *The Fern Gazette* (earlier known as *The British Fern Gazette*) for the last 39 years is the finest tribute and lasting memorial to him.

Jim began his career at The Natural History Museum when it was still known as the British Museum (Natural History) in 1932. His job bore the now extinct title of Attendant, and he was assigned to help the late A.H.G. Alston with the Fern Herbarium. His career was interrupted for nearly six years by World War II, but, ever the kindly tutor, in the last months of the war Jim asked his parents to send his natural history books out to him in Italy so that he could wean his fellow servicemen back into education.

On his return to the Museum in 1946, he found that the building and some specimens had been damaged during the war. However, this enabled the Department of Botany to expand and Jim's careful forethought and organisation resulted in the Fern Herbarium moving to new accommodation and gaining the reputation of being one of the best curated collections of fern specimens in the world.

The post-war years also saw the British Pteridological Society take on a new lease of life, and Jim's long involvement with the Society began in 1954. His name appears regularly in accounts of Society field meetings. He is pictured on page 108 of *The History of British Pteridology 1891-1991* (Camus, ed. 1991) enjoying a rest, faithful camera in hand he was a keen photographer. He became a Committee Member in 1955 and in 1963 took on the editorial duties that continued until his death. During this time he worked with ten co-editors (A.H.G. Alston, Clive Jermy, Frances Jarrett, Barry Thomas, Chris Page, Jeffrey Grimes, Mary Gibby, Barbara Parris, Josephine Camus and Alastair Wardlaw), training most of them to his own high standards. He always had the interests of the Society at heart, and when his health no longer permitted him to attend Committee meetings he was on the phone early the next day demanding a detailed debriefing.



Jim Crabbe in the library of the South London Botanical Institute, 1992

Alston was succeeded by Clive Jermy, who shared the same desire for long collecting trips abroad, so Jim was able to continue with his own projects and to provide valuable assistance to fern researchers all over the world. Jim's name is regularly featured in the acknowledgements of major publications until his retirement from the Museum in 1979. By this time he had risen considerably through the ranks to Senior Scientific Officer. His own publications covered biographies, bibliographies and new discoveries amongst ferns, and he was co-author of the very important work on the new generic sequence of ferns that has been adopted by many herbaria worldwide.

In 1997 Jim donated a silver cup, the J.W. Dyce Trophy, to commemorate the great service that his friend Jimmy had given over many years to the Society. It was agreed that the Trophy would be awarded annually to the exhibitor who amassed the most points over all classes at a BPS Fern Show.

Jim's colleagues remember him as a cheerful and pleasant person with a ready smile and good sense of humour. He had many friends in museums, universities and botanical societies around the world. He was a strong character, especially when it came to the use of words. Successive editors of *The Fern Gazette* had to stand firm on the use of metric measurements and deny Jim the comfort of Imperial feet and inches. His notes with the distinctive 'JAC' autograph are found throughout the Museum's collections and books, guiding the next generation along the right path. His personality and contributions to pteridology and the Society will be greatly missed.

Jim's wife Joyce, with whom he shared a love of music, died 16 years previously. We offer our condolences to his daughters Jaquie and Jenny and their families.

Josephine Camus

HUGH VANNER CORLEY 1914 – 2002

Hugh Corley, a long-standing member of the Society, died on 19th October 2002, 12 days after celebrating his 88th birthday. By the BPS, he will be remembered for his enthusiastic, yet scientific studies of the male and buckler ferns for which he was elected an Honorary Member in 1994.

Hugh was born in South India, where his father taught at, and was later Principal of, the Christian College in Madras. He left India when he was four and went to school in England, eventually attending Marlborough College, from where he gained entrance to Oriel College, Oxford, to read zoology. After a brief period in the army he took up farming, at first working as a pupil on a farm near Kelmscott. Towards the end of 1938 he bought Pucketty Farm at Faringdon. At that time, Pucketty, like many farms in Britain, was quite run down and Hugh soon decided that he would try to build it up on organic principles. Not only did he become an organic farmer, he eventually wrote a book on the subject, and in those early days many people came to Pucketty to learn how to farm organically.

At the outbreak of World War II, Hugh was advised by the Gloucester Regiment that they had plenty of officers and did not need him, so he resigned his commission and continued farming, joining the Home Guard instead. In 1940, a land-girl called Betty Henry arrived at the farm to help, and within three months Hugh and Betty were married.

In the 1950s, Hugh developed an interest in ferns – quite by chance. In North Wales he was showing his eldest son how to use a dichotomous key. They picked a common fern at the roadside, which they tracked down to be the rigid buckler fern, *Dryopteris villarii* (now *D. submontana*), only to find that it was listed as a very rare species. With the determination that was characteristic of him, Hugh worked through the key again and

again to reach the ultimate and correct answer that it was the common male fern. Thus began nearly 50 years of enthusiastic involvement with ferns. Anything that Hugh did, he did thoroughly, and the study of ferns was no exception. He found out about the BPS, and joined the Society in 1962. He began to specialise in *Dryopteris*, particularly the male fern complex and then the scaly male ferns, a group with a wide range of variation that is enough even to wilt many a professional botanist. Another innovative contribution he made was in being the first to suggest formulae (e.g. AB, AAB) for the possible combinations of genomes in what later became the subspecies of *Dryopteris affinis*, work that is still being continued today.

photo. A.C. Jermy

Hugh Corley

He began to read around the subject, in particular Irene Manton's milestone treatise on the cytology of ferns, and other publications that were emerging from her School of fern cytology. One line of published research into the buckler ferns (by Stanley Walker) had stimulated Hugh to search for the 'missing' diploid parent of *D. carthusiana*. Hugh contacted Stanley, then President of the BPS, who lent him an old microscope so that Hugh could check spores to see if they were abortive and thereby a hybrid.

Fieldwork was done in southern England and Wales at weekends when the farming calendar allowed it, and for many years in Argyll, a 'hot bed' of *Dryopteris* variation, where the Corleys had a farming friend who they visited twice a year. In 1982 Hugh was fern hunting in Kintyre and made the first discovery outside Finland of *Dryopteris* x *sarvelae* (*D. carthusiana* x *D. expansa*). Hugh led a BPS Meeting in Argyll in 1996 when members visited 15 sites and saw much of interest (see *BPS Bulletin* 5(1): 3-5).

A living fern collection was built up at Pucketty – in the garden, in outhouses and in the sitting room. Those in the house were usually in plastic sacks, sometimes for several months, and (with the surrounding carpet!) were regularly sprayed with water until he found time to pot them up; unconventional though he was, Hugh got his priorities right and the ferns' well-being came first. Many of these specimens were later studied in depth by Walker, and latterly, by his former student Mary Gibby at the BM. Under Stanley Walker's tuition Hugh quickly learned to detect the exact stage when developing spores could be stained to show their chromosomes to allow both counting and, in the case of hybrids, their grouping behaviour ('pairs' or 'singles') that allows the observer to propose the plant's lineage. Much of this 'laboratory' work was done in the early hours of the morning and Hugh was told that chromosomes would not be showing the required behaviour in the dark. He was quite unconcerned, however, with

how others did things, but simply followed what seemed to him the most sensible or practical course. He stood the plant in front of electric lamps for a time before collecting the required material.

He was a kind and generous person, and was always willing to assist anyone who needed help or who showed an interest in ferns. One such person was a young student from Radley College, Christopher Fraser-Jenkins, who struck up a long-lasting friendship with Hugh and with his encouragement went on to study ferns, especially *Dryopteris*, on a worldwide basis. On finding a species of *Dryopteris* new to science in N. Spain, Fraser-Jenkins named it *D. corleyi* in honour of Hugh.

One problem that they solved between them concerned the (tetraploid) common male fern (*D. filix-mas*). Professor Manton's studies had shown that this species had been formed from the hybrid of two (diploid) ancestral species, one of which (*D. oreades*) she collected in the English Lake District. The other had been searched for but was hitherto unknown. Hugh, from his intimate knowledge of the species morphology, drew up an 'identikit' of the plant they needed to find and encouraged Fraser-Jenkins to search for it on his travels. The latter eventually found it by chance, first in NE Turkey and then in the Caucasus. The resulting research was published as a joint paper in the *Fern Gazette* after they found that it had been named in Russia in the early 19th Century but had been long overlooked.

In the seventies Hugh Corley trained as a chiropractor, being one of the first pupils of the late John McTimoney. He was not just content to learn to be a chiropractor; he built on McTimoney's ideas, and founded the Oxford College of Chiropractic. His claim that many common illnesses were the result of skeletal maladjustments was often shown to be true. When Hugh discovered that I suffered from sciatic pains he insisted on checking my vertebral column whenever we met, whether at home, at Pucketty, in the Museum herbarium, or in the field.

Over the 50 years that I have known Hugh and his wife Betty, I have been privileged to have been accepted into his family circle. I have been grateful for his mental stimulation both in the field and during those late-night discussions. Hugh pointing out, albeit gently, when and where my reasoning was flawed. Betty passed away seven months before him but he leaves eight children, 16 grandchildren and two great-grandchildren. He will be sadly missed by them and all who came into his ambit.

Clive Jermy

BETTY MOLESWORTH ALLEN OBE 1913 – 2002

Betty Allen, a shy and self-deprecating person who had quietly contributed significantly to the science of botany in both Asia and Europe, died on 11th October in south Spain at the age of eighty-eight. She was a BPS member for 25 years, first joining in 1957.

Betty Eleanor Gosset Molesworth was born on 21st July 1913, in Opotiki, New Zealand, her father, Ernest, having emigrated there during the 1890s to make a life as a sheep farmer. When Betty was 14 she contracted tuberculosis, often a killer in those days, and spent two years in confinement in a sanatorium. During this time she spent much time reading books about the natural world, whetting her appetite for a life-long interest in plants.

She then found a part-time job at Auckland Museum mounting plants specimens (in fact, Banks and Solander collections made on Captain Cook's voyages of discovery to New Zealand and Australia in the 1770s). It was here that she developed an ambition to read natural sciences at Cambridge University, but intermittent illness prevented her from

pursuing it. She did, however, eventually move to Dunedin where she read botany under Prof. J. Holloway. Holloway's speciality was ferns, and it was he who first worked out the life cycle of *Psilotum nudum*, a fact that made Betty aware of the plant wherever she subsequently travelled.

photo: J.M. Castle-Smith

Betty Molesworth Allen

At the outbreak of World War II Betty volunteered for service in the Royal Air Force, but knew that her health would prevent her from being accepted. However, she got a job driving lorries in New Zealand. After the war she returned to Auckland Museum, as their Botanist. On the strength of her knowledge of the Pacific flora, Betty was offered a bursary to work for two years at Basle University, to be followed by fieldwork on the island of New Caledonia. Realising that she was inexperienced in tropical plants, she planned three months in Malaya to familiarise herself with them. She arrived there in 1947 and stayed with her cousin David Molesworth, a pioneer doctor. Within the year she had met and married an ex-RAF officer, Geoffrey Allen. He was to become a merchant with Jardine Matheson and already had a wide experience of India and the Far East. His strong interest in birds and insects complemented Betty's love of plants. Betty sent her apologies to Basle, and went with Geoffrey to collect plants in Thailand and Borneo.

She soon met up with R.E. Holttum, Director of Singapore Botanic Garden, who was then completing a definitive account of the *Ferns of Malaya*, and Betty took the chance of narrowing her studies and decided to concentrate on these plants. She had an excellent memory and a discerning eye for detail, an aspect that was appreciated by Holttum and he published her observations in Appendix 2 of his book, then ready for printing. Her Malayan and Thai collections are deposited in Singapore BG (SING), with various duplicates and other collections in Auckland (AK), Kepong (KEP), Kew (K), NHM, London (BM), Smithsonian (US) and Stockholm (S).

Betty and Geoffrey shared nearly forty years of happy marriage, most of it based in Malaysia where they travelled much. In 1963 they retired to Los Barios, S. Spain, where Betty took up the study of the Spanish vascular flora with enthusiasm, sending many specimens to Prof. T. Tutin at Leicester University. Tutin and his colleagues were at that time working on a major project, Flora Europaea, and Spain at that time was under-collected. Betty made many new discoveries and several records of ferns that were either new sites or confirmation of records over 50 years old: *Culcita macrocarpa*, *Pteris* incompleta, Thelypteris palustris and Trichomanes speciosum. Within two years of being in Spain she spotted Psilotum nudum high on a cliff whilst exploring a sandstone gorge near Los Barrios. It was the most northerly record of a species that she

had seen in many sites in SE Asia and that had not been found north of the Sahara at this longitude.

Betty was soon sought out by Spanish botanists, who were now on the increase. She contributed to the *Flora Vascular de Andalucia Occidental* and wrote many articles in local magazines. Her last book, *A Selection of Flowers of Andalucia*, was published in 1993. In 1988 she was made an Honorary Daughter of Los Barrios, a rare distinction for a non-Spaniard, and in 1995 she was awarded the H.H. Bloomer Award by the Linnean Society of London. Three years later she received an OBE.

She remained in contact with Eric Holttum, whom she regarded as her mentor, until his death and attended the Holttum Memorial Pteridophyte Symposium at Kew in 1995, meeting up with old friends. She was kind and helpful to any botanist who arrived in Los Barrios and, once she had assessed their motives as genuine, enjoyed showing them her sites of ferns, walking many miles even when in her eighties. She was a conservationist to the end and could not tolerate any kind of wanton collection of specimens. She was respected and loved by all who met her. Her papers and library are being reorganised and will eventually be available to scholars through Martin Jacoby, to whom I am grateful for much of the information given above.

Clive Jermy

JOHN D. BOND

Although never active in the management of our Society, John Bond was one of the most influential fern growers over the last 25 years. He was for many years a member of the council of the Royal Horticultural Society, a position he used to keep abreast of all aspects of gardening including promoting fern growing. As a frequent exhibitor at RHS flower shows over the last ten years I was always delighted to see John on the list of judges. He was certainly no pushover but he knew his plants, including ferns of course, and I always knew I would get a fair assessment; his friendly advice and comments on my display were always immensely helpful.

He joined our Society in 1977, and as head of the garden staff at the Savill Garden in Windsor Great Park he built up the National Collection of ferns in the gardens. Unlike most National Collections, his was a general collection covering all genera of hardy ferns, plus a few not so hardy in the greenhouse. He had a collection of 286 taxa including many unusual ferns collected by Christopher Fraser-Jenkins. John was an incredible plantsman. At Savill he established other National Collections – conifers (2,822 taxa), *Ilex* (353), *Magnolia* (78), *Pernettya* (40), *Pieris* (102) and some *Rhododendron* (813). In addition to all these he had superb collections of many other groups.

In 1991 I asked if the BPS centenary tour could visit the Savill Garden; we were welcomed warmly on the day despite the fact that we were running well over an hour late. I was very embarrassed but he made nothing of it. He gave us a wonderful tour. More recently John was asked to write the *Plantfinder's Guide to Garden Ferns* for David and Charles; he agreed but soon after signing all the agreements his wife fell ill and sadly died. At the same time John was also unwell and not up to writing the book. I am not sure, but I believe he suggested David and Charles invite me to take on the work. This I did and the rest is history, although prior to publication John did say how pleased he was that I was writing the book. On the face of it he recovered from this illness but I never saw him looking well again. He was a gentleman who will be greatly missed.

Martin Rickard

JOHN MASHITER

1909 – 2002

The death on June 1st of John Mashiter ended one of the longest running family memberships of this Society. John, who first joined *c.*1960 and had followed his father as a member, died at the age of 93.

Born in Westmorland (now part of Cumbria in the Lake District), John was always a countryman at heart, but his chosen career of banking inevitably saw him having to move to centres of population. Highly intelligent, he became both a qualified banker and a qualified chartered secretary and he was also a linguist, speaking seven European languages. Not surprisingly, he was destined for a successful career but after spells in Manchester and Liverpool he declined to move to London and happily became Manager of a bank in Skipton (in the Yorkshire Dales and not too far from the Lake District) and he held this position for 21 years until his retirement in 1969.

photo courtesy R. Mashiter

John Mashiter

Prior to retirement, he had stumbled across a building plot at Arnside, Cumbria on which he had his retirement home built, albeit always secondary to his garden! Situated in a valley, John devoted his entire retirement to creating a splendid garden at his home of which the main feature was a hillside, which he excavated by hand back to rock-face and where he created a renowned garden of ferns and alpines.

His interest in ferns and alpines went back to early days when John, along with his father, travelled extensively in Europe long before the days of package holidays, their mode of transport being train and bike. On these trips, father and son admired flora and fauna in alpine meadows and mountains, and these holidays provided his inspiration.

A modest man, he created his gardens for the pleasure of propagation and achievement rather than for public show. He delighted in showing members of the Society around his garden and many members will recall the wonderful afternoon spent at his garden during the BPS Centenary year.

Richard Mashiter

PETER G. CORBIN

Peter joined the Society in 1969 and occasionally attended meetings in the Devon and Cornwall area. Sadly I only met him a few times way back in the early 1970s, although we have corresponded a little since. He was a knowledgeable biologist, and a good companion in the field; he used to work in marine biology. His greatest claim to pteridological fame was his discovery of a true wild *Asplenium scolopendrium* 'Crispum' twenty or more years ago. Apart from another fine 'Crispum' found in Cheddar Gorge by Christopher Potts in 1984, I know of no other wild finds of this cultivar from the last 50 years at least. Even that great hunter Jimmy Dyce often lamented that he never found one – for the record neither have I! Sadly I never saw Peter's plant; hopefully the new custodians of his garden can find it and preserve it.

Martin Rickard

DR JAMES C. PARKS 1942 – 2002

Those who met Jim Parks at several BPS meetings over the last ten years will be sorry to hear that he died suddenly just before Christmas. He had undergone a quintuple by-pass and other vascular surgery in May 2002 but recovery and the prospects for the future had been good.

At Millersville University, Pennsylvania, his teaching duties over 34 years covered a wide range of subjects in Higher and Lower Plant Biology, Systematics and Evolution. He participated in a variety of local and State activities concerned with recording, publicising and conserving the Pennsylvania flora, and (with Jim Montgomery) was preparing a taxonomic treatment of pteridophytes for the *Flora of Pennsylvania* project.

His interest in pteridophytes developed during a field course led by Don Farrar at the University of Virginia's Mountain Lake Biological Station in 1978. In 1981 he began working with Don on independent fern gametophytes in north-east USA. In 1983 they published, with Bruce McAlpin, the first report of *Vittaria* and *Trichomanes*, as gametophytes, in Pennsylvania, where sporophytes of these genera had not at that time been found, and later Jim published the results of an intensive survey of the distribution of independent gametophytes in Pennsylvania.

In the meantime, Jim had worked with Charlie Werth on an investigation, using allozyme analysis, of population structure in a stand of *Pteridium aquilinum* in Virginia, reporting the largest clone of bracken then known, at least 1.1km across. In 1993, Jim, accompanied by his wife Vicki, came to the UK to work with Stuart Lindsay and me at the Royal Botanic Garden Edinburgh. Over a period of several months he conducted a comparative study of allozymes and frond and spore morphology in *Cystopteris dickieana* from the type locality and in other representatives of the *C. fragilis* complex. This work yielded no support for treating *C. dickieana* as a separate species. The following year Jim came again to Edinburgh to participate in the BPS meeting on 'Ecology and Conservation of Scotland's Rare Ferns', where he spoke about his work on *Cystopteris*. More recently, he participated in the BPS International Symposium 'Fern Flora Worldwide – threats and responses', presenting a paper he had prepared with S. Grund on 'Aspects of conservation action in a large nation: at-risk pteridophyte conservation in the USA'. At the time of his death he had plans to work with Jim Montgomery on a Field Guide to the Fern Flora of Pennsylvania, making use of his extensive field experience. He was due to retire from the University later in 2003 but was looking forward to continuing his fern interests as well as having more time with the families of his two daughters, Heather and Holly.

Many Millersville students will have cause to be grateful for his dedicated teaching: he saw this as his most important role as a botanist, and botanical colleagues in the USA will feel the loss of his detailed knowledge of the distribution and ecology of the flora of Pennsylvania (not only the ferns). I will miss a good friend, whose enthusiasm for ferns, apposite quotations, wry sense of humour and thought-provoking comments on life and the world in general, provided stimulation, information and entertainment in equal measure.

Adrian Dyer

IN MEMORIAM

We were also sorry to learn of the death of the following members:

Mr J.K. McCormick of Co. Down, who joined the Society in 2001.

Mr Rudolf Schweizer of Switzerland, who joined the Society in 1985.

Mr Peter Hindle of Penwortham, Preston, who joined the Society in 1992. He was a stalwart of the North-West Group and recently became joint Group secretary. Our condolences to his wife, Joan, who is also a member.

MEMBERSHIP LIST: ADDITIONS AND AMENDMENTS

NEW MEMBERS

** new members 2002, ** new members 2003, # members rejoined 2002*

* Adkins, Dr M.S., 1 Streamside, Fleet, Hants. GU51 3LX
* Alexander, Mr W., 28 Mount Eagle Rise, Leopardstown Heights, Dublin 18, Ireland
* Anderson, Mrs I.G., Greystones, Ley Lane, Olveston, Bristol BS35 4DG
** Askham Bryan College, Attn. Mrs Lynn Gray, Askham Bryan, York YO23 3FR
** Baggott, Mr M.A. & Mrs L.C., The Nutshell, Canon Frome, Nr. Ledbury, Herefordshire HR8 2TB
* Ball, Mr P.G., 33 Clovelly Drive, Newburgh, West Lancs. WN8 7LY
* Bambrough, Mr N.J., 17 Hadrian Drive, Coleshill, Warwicks. B46 1HW
* Barker, Dr J.H.A., IACR - Long Ashton Research Station, Long Ashton, Bristol BS41 9AF
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Wong, Mr L.M., 50 Shambrook Road, Cheshunt, Waltham Cross, Herts. EN7 6WB

MEETINGS PROGRAMME 2003

Meetings Secretary: P.J. Acock
Meetings Subcommittee: R.G. Ackers, N.J. Hards, J.M. Ide, A. Leonard, P.H. Ripley

Sat. 22 March	**Spring Meeting & AGM – Natural History Museum, London** Leader: Graham Ackers
Sat. 24 - Sat. 31 May	**Week Field Meeting – South-West Ireland** Leaders: Stephen & Karen Munyard
Sat. 21 - Sun. 22 June	**Weekend Field Meeting – Machynlleth, Mid Wales** Leaders: Barry Thomas & Pat Acock
Tues. 15 - Fri. 25 July	**Overseas Field Meeting & Garden Excursion – Seattle, Washington State, USA** Leader: Sue Olsen
Thurs. 21 - Sat. 23 Aug.	**Southport Flower Show: BPS Stand** Further Info.: Matt Busby
Fri. 22 - Sat. 23 Aug.	**Meeting to coincide with Southport Flower Show** Leader: Pat Acock
Sat. 13 - Sun. 14 Sept.	**Weekend Field Meeting – Ilfracombe, North Devon** Leader: Paul Ripley
Sat. 8 Nov.	**Autumn Meeting on Tree-Ferns – RBG Kew, Surrey** Leaders: Graham Ackers & Alastair Wardlaw
8 - 19 Jan. 2004	**Overseas Field Meeting – Trinidad, West Indies** Leaders: Yasmin Baksh-Comeau & Graham Ackers

For further details of these and other meetings of interest to members, including information on accommodation, please see the separate Meetings Programme sheet. This can be sent to overseas members on request.

Regional Meetings

For details of additional meetings in the following areas, please contact the regional organisers, enclosing a stamped addressed envelope.

Leeds & District	B. Wright, 130 Prince Rupert Drive, Tockwith, York YO26 7PU e-mail: Leeds@eBPS.org.uk
South-East England	P.H. Ripley, North Lodge, Dene Park Gardens, Shipbourne Road, Tonbridge, Kent TN11 9NS; e-mail: SouthEast@eBPS.org.uk
East Anglia	B.R. Stevenson, Willow Cottage, Cowlinge, Newmarket, Suffolk CB8 9QB e-mail: EastAnglia@eBPS.org.uk
North-West England	Mrs F. Haigh, 56 Church Street, Milnthorpe, Cumbria LA7 7DZ e-mail: NorthWest@eBPS.org.uk
Cornwall	I.J. Bennallick, Lower Polmorla St, Wenn, Bodmin, Cornwall PL30 5PE e-mail: Cornwall@eBPS.org.uk
Scotland	Dr H.S. McHaffie, 180 Granton Road, Edinburgh EH5 1AH e-mail: Scotland@eBPS.org.uk

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SPORE LIST ADDENDUM

Spores of the following five taxa were not included on the spore list:

36 *Adiantum peruvianum*
1705 *Platycerium bloomei*
1066 *Platycerium elephantotis*
1071 *Platycerium lemoinei*
1706 *Platycerium ridleyi*

Barry Wright

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